

PART - I

SULLABUS FOR ENVIRONMENTAL STUDIES" FOR UNDER GRADUATE

“इन्वायरमेन्टल साइंसेस” के पाठ्यक्रम को स्नातक स्तर भाग-एक की कक्षाओं में विश्वविद्यालय अनुदान आयोग के निर्देशानुसार अनिवार्य रूप से शिक्षा सत्र 2003-2004 (परीक्षा 2004) से प्रभावशील किया गया है। स्वशासी महाविद्यालयों द्वारा भी अनिवार्य रूप से अंगीकृत किया जाएगा।

भाग 1, 2 एवं 3 में से किसी भी वर्ष में पर्यावरण प्रश्न-पत्र उत्तीर्ण करना अनिवार्य है। तभी उपाधि प्रदाय योग्य होगी।

पाठ्यक्रम 100 अंको का होगा, जिसमें से 75 अंकर सैद्धांतिक प्रश्नों पर होंगे एवं 25 अंक क्षेत्रीय कार्य (Field Work) पर होंगे।

सैद्धांतिक प्रश्नों पर अंक - 75 (सभी प्रश्न इकाई आधार पर रहेंगे जिसमें आंतरिक विकल्प रहेगा)

(अ) लघु प्रश्नोंत्तीर - 25 अंक

(ब) निबंधात्मक - 50 अंक

Field Work - 25अंकों का मूल्यांकन आंतरिक मूल्यांकन पद्धति से कर विश्वविद्यालय को प्रेषित किया जावेगा। अभिलेखों की प्रयोगिक उत्तर मुस्तिकाओं के समान संबंधित महाविद्यालयों द्वारा सुरक्षित रखेगे।

उपरोक्त पाठ्यक्रम से संबंधित परीक्षा का आयोजन वार्षिक परीक्षा के साथ किया जाएगा।

पर्यावरण विज्ञान विषय अनिवार्य विषय है, जिसमें अनुत्तीर्ण होने पर स्नातक स्तर भाग-एक के छात्र/छात्राओं को एक अन्य विषय के साथ पूरक की पात्रता होगी। पर्यावरण विज्ञान के सैद्धांतिक एवं फील्ड वर्क में संयुक्त रूप से 33% (तैंतीस प्रतिशत) अंक उत्तीर्ण होने के लिए अनिवार्य होंगे।

स्नातक स्तर भाग-एक के समस्त नियमित/भूतपूर्व/अमहाविद्यालयीन छात्र/छात्राओं को अपना फील्ड वर्क सैद्धांतिक परीक्षा की समाप्ति के पश्चात 10 (दस) दिनों के भीतर संबंधित महाविद्यालय/परीक्षा केन्द्र में जमा करेंगे एवं महाविद्यालय के प्राचार्य/केन्द्र अधीक्षकों/परीक्षकों की नियुक्ति के लिए अधिकृत रहेंगे तथा फील्ड वर्क जमा होने के सात दिनों के भीतर प्राप्त अंक विश्वविद्यालय को भेजेगे।

PART - I

SULLABUS FOR ENVIRONMENTAL STUDIES" FOR UNDER GRADUATE

M.M. 75

IT-I THE MULTI DISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES :

Definition, scope and importance

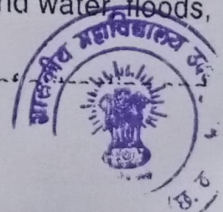
Need for public awarness.

Natural Resources :

Renewable and nonrenewable resources :

Natural resources and associated problems.

- Forest resources : Use and over-exploitation, deforestation, case studies, Timber extraction, mining, dams and their effects on forests and tribal people.
- Water resources : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams benefits and problems.
- Mineral resources : Use and exploitation, environmental effects of



using mineral resources, case studies.

- (d) Food resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
- (e) Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies.
- (f) Land resources : Land as a resource, land degradation, man induced landslide soil erosion and desertification.
 - Role of an individual in conservation of natural resources.
 - Equitable use of resources for sustainable life-styles.

(9 Lectures)

UNIT-II ECOSYSTEMS

Concept of an ecosystem.

Structure and function of an ecosystem.

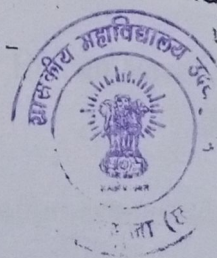
- Producers, consumers and decomposers.
- Energy flow in the ecosystem.
- Ecological succession.
- Food chains, food webs and ecological pyramids.
- Introduction, types, characteristic features, structure and function of the following ecosystem :
 - a. Forest ecosystem
 - b. Grassland ecosystem
 - c. Desert ecosystem
 - d. Aquatic ecosystems (Ponds, streams, lakes, rivers, oceans, estuaries)

(9 Lectures)

UNIT-III Biodiversity and its Conservation

- Introduction - Definition : genetic, species and ecosystem diversity.
- Biogeographical classification of India.
- Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values.
- Biodiversity at global, National and local levels.
- India as mega-diversity nation.
- Hot-spots of biodiversity
- Threats to biodiversity : habitat loss, poaching of wildlife, man-wildlife conflict
- Endangered and endemic species of India.
- Conservation of biodiversity : In situ and Ex-situ

UNIT-IV



- b. Water pollution
- c. Soil pollution
- d. Marine pollution
- e. Noise pollution
- g. Nuclear hazards.
- Solid waste management : Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Pollution case studies
- Disaster management : floods, earthquake, cyclone and landslides.

Human Population and the Environment

- Population growth, variation among nations,
- Population explosion - Family Welfare Programme.
- Environment and human health.
- Human Rights.

(9 Lecture)

UNIT-V Social Issues and the Environment

- From Unsustainable to Sustainable development.
- Urban problems related to energy.
- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people, its problems and concerns. Case studies.
- Environmental ethics : Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
- Wasteland reclamation.
- Consumerism and waste products.
- Environment Protection Act
- Air (Prevention and Control of Pollution) Act.
- Water (Prevention and Control of Pollution) Act.
- Wildlife Protection Act.
- Forest Conservation Act.
- Issues involved in enforcement of environmental legislation.
- Public awareness.
- Value Education
- HIV/AIDS
- Women and Child Welfare.
- Role of Information Technology in Environment and Human Health.
- Case Studies.

(9 Lecture)

FIELD WORK

- Visit to a local area to document environmental assets-river/forest/grassland/hill/mountain.
- Visit to local polluted site : Urban/Rural/Industrial/Agriculture.



Study of common plants, insects, birds.

Study of simple ecosystems-pond, river, hill slopes, etc. (Field work Equal to 5 lecture hours)

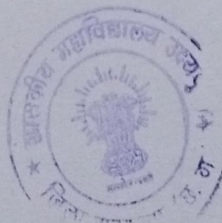
REFERENCES :

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8. Gloick, H.P. 1993 Water in crisis, Pacific Institute for studies in Deve, Environment & Security. Stockholm Eng. Institute. Oxford Univ, Press. 473p.
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19. Townsend C., Harper J., and Michael Begon, Essentials of Ecology, Blackwell Science (TB).
20. Trivedi R.K. Handbook of Environmental Laws, Rules, Guidelinès, Compliances and Standards, Vol. I and II, Environment Media (R).
21. Trivedi R.K., and P.K. Goel, Introduction to air pollution, Techno-Science Publications (TB)
22. Wagner K.D., 1998, Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p.

(M) Magazine

(R) Reference

(TB) Textbook.



संशोधित पाठ्यक्रम
बी.ए./बी.एस-सी./बी.कॉम./बी.एच.एस.-सी.
भाग - एक (आधार पाठ्यक्रम)
प्रश्न पत्र- प्रथम (हिन्दी भाषा)
(पेपर कोड -0101)

पूर्णांक- 75

नोट :-

1. प्रश्न पत्र 75 अंक का होगा।
2. प्रश्न पत्र अनिवार्य होगा।
3. इसके अंक श्रेणी निर्धारण के लिए जोड़े जायेंगे।
4. प्रत्येक इकाई के अंक समान होंगे।

पाठ्य विषय :-

इकाई-1

- क. पल्लवन, पत्राचार, अनुवाद, पारिभाषिक शब्दावली एवं हिंदी में पदनाम
- ख. ईदगाह (कहानी) - मुंशी प्रेमचंद

इकाई-2

- क. शब्द शुद्धि, वाक्य शुद्धि, शब्द ज्ञान-पर्यायवाची शब्द, विलोम शब्द, अनेकार्थी शब्द, समश्रुत शब्द, अनेक शब्दों के लिए एक शब्द एवं मुहावरे-लोकोक्तियाँ
- ख. भारत वंदना (कविता)- सूर्यकान्त त्रिपाठी निराला

इकाई-3

- क. देवनागरी लिपि - नामकरण, स्वरूप एवं देवनागरी लिपि की विशेषताएँ, हिंदी अपठित गद्यांश, संक्षेपण, हिंदी में संक्षिप्तीकरण
- ख. भोलाराम का जीव (व्यंग्य) - हरिशंकर परसाई

इकाई-4

- क. कम्प्यूटर का परिचय एवं कम्प्यूटर में हिंदी का अनुप्रयोग
- ख. शिकागो से स्वामी विवेकानंद का पत्र

इकाई-5

- क. मानक हिन्दी भाषा का अर्थ, स्वरूप, विशेषताएँ, मानक, उपमानक, अमानक भाषा
- ख. सामाजिक गतिशीलता - प्राचीन काल, मध्यकाल, आधुनिक काल



मूल्यांकन योजना :-

प्रत्येक इकाई से एक-एक प्रश्न पूछा जाएगा। प्रत्येक प्रश्न में आंतरिक विकल्प होगा। प्रत्येक प्रश्न के 15 अंक होंगे। प्रत्येक प्रश्न के दो भाग 'क' और 'ख' होंगे एवं अंक क्रमशः 8 एवं 7 होंगे। प्रश्न-पत्र का पूर्णांक 75 निर्धारित है।

पाठ्यक्रम संशोधन का औचित्य :-

व्याकरण के बुनियादी ज्ञान, संप्रेषण, कौशल, सामाजिक संदेश एवं भाषायी दक्षता को ध्यान में रखते हुए यह पाठ्यक्रम प्रस्तावित है।



अध्यक्ष— हिंदी अध्ययन मंडल

संशोधित पाठ्यक्रम
बी.ए./बी.एस-सी./बी.कॉम./बी.एच.एस.-सी.
भाग - दो, आधार पाठ्यक्रम
प्रश्न पत्र - प्रथम (हिन्दी भाषा) (पेपर कोड - 0171)

पूर्णांक- 75

खण्ड - क निम्नलिखित 5 लेखकों के पाठ शामिल होंगे -

अंक-35

- | | | |
|------------------------|---|--------------------------|
| 1. महात्मा गांधी | - | चोरी और प्रायश्चित |
| 2. आचार्य नरेंद्र देव | - | युवकों का समाज में स्थान |
| 3. वासुदेव शरण अग्रवाल | - | मातृभूमि |
| 4. हरि ठाकुर | - | डॉ. खूबचंद बघेल |
| 5. पं. माधवराव सप्रे | - | सम्भाषण-कुशलता |

खण्ड-ख हिन्दी भाषा और उसके विविध रूप

अंक-16

1. कार्यालयीन भाषा
2. मीडिया की भाषा
3. वित्त एवं वाणिज्य की भाषा
4. मशीनी भाषा

खण्ड-ग हिन्दी की व्याकरणिक कोटियाँ

अंक-24

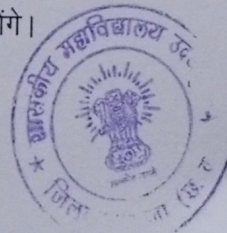
संज्ञा, सर्वनाम, विशेषण, क्रिया विशेषण,
समास, संधि एवं संक्षिप्तियाँ
अनुवाद व्यवहार : अंग्रेजी से हिन्दी में अनुवाद

इकाई विभाजन-

- | | |
|---------|---|
| इकाई- 1 | चोरी और प्रायश्चित : महात्मा गांधी / कार्यालयीन भाषा, मीडिया की भाषा |
| इकाई- 2 | युवकों का समाज में स्थान : आचार्य नरेन्द्र देव / वित्त एवं वाणिज्य की भाषा, मशीनी भाषा |
| इकाई- 3 | मातृभूमि: वासुदेवशरण अग्रवाल / संज्ञा सर्वनाम, विशेषण, क्रिया विशेषण |
| इकाई- 4 | डॉ. खूबचंद बघेल : हरि ठाकुर/समास, संधि, |
| इकाई- 5 | सम्भाषण-कुशलता : पं. माधवराव सप्रे, / अनुवाद - अंग्रेजी से हिन्दी में अनुवाद, संक्षिप्तियाँ |

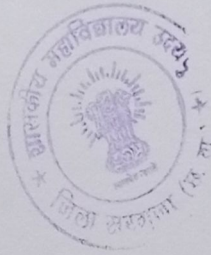
मूल्यांकन योजना -

प्रत्येक इकाई से एक-एक प्रश्न पूछे जाएंगे। प्रत्येक प्रश्न में आंतरिक विकल्प होगा। प्रत्येक प्रश्न के 15 अंक होंगे। प्रत्येक इकाई को दो-दो खण्डों (क्रमशः 'क' और 'ख' में) विभक्त करते हुए निर्धारित पाठ से 8 एवं शेष पाठ्य सामग्री से 7 अंक के प्रश्न होंगे। इस प्रकार पूरे प्रश्न-पत्र के पूर्णांक 75 होंगे।



पाठ्यक्रम संशोधन का औचित्य : विद्यार्थी चर्चित एवं सुप्रसिद्ध व्यक्तियों के लेख के माध्यम से समाज एवं राष्ट्रहित के साथ-साथ व्यक्तित्व विकास विषयक मुद्दों से परिचित हो सके तथा व्याकरण एवं भाषा विषयक प्रस्तावित पाठ्यक्रम के माध्यम से हिन्दी भाषा संबंधित प्रयोग पक्ष से परिचित होते हुए प्रतियोगी परीक्षाओं की दृष्टि से ज्ञानार्जन कर सके।

अध्यक्ष- हिंदी अध्ययन मंडल



(संशोधित पाठ्यक्रम)

बी.ए./बी.एस-सी./बी.कॉम./बी.एच.एस.-सी.

भाग - तीन, आधार पाठ्यक्रम

प्रश्न पत्र - प्रथम (हिन्दी भाषा)

(पेपर कोड - 0231)

पूर्णांक- 75

इकाई-एक (क) भारत माता : सुमित्रानंदन पंत

(ख) कथन की शैलियाँ

1. विवरणात्मक शैली

2. मूल्यांकन शैली

3. व्याख्यात्मक शैली

4. विचारात्मक शैली

इकाई-दो (क) सूखी डाली : उपेन्द्रनाथ अश्क

(ख) विभिन्न संरचनाएँ

1. विनम्रता सूचक संरचना

2. विधि सूचक संरचना

3. निषेध परक संरचना

4. काल-बोधक संरचना

5. स्थान-बोधक संरचना

6. दिशा बोधक संरचना

7. कार्य-कारण सम्बन्ध संरचना

8. अनुक्रम संरचना

इकाई-तीन (क) वसीयत : मालती जोशी

(ख) कार्यालयीन पत्र और आलेख

1. परिपत्र

2. आदेश

3. अधिसूचना

4. ज्ञापन

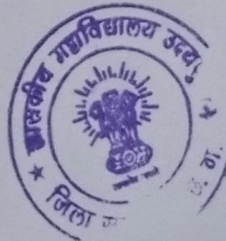
5. अनुस्मारक

6. पृष्ठांकन

इकाई-चार (क) योग की शक्ति : हरिवंश राय बच्चन

(ख) अनुवाद : स्वरूप एवं परिभाषा, उद्देश्य

स्रोत भाषा और लक्ष्य भाषा,



अच्छे अनुवाद की विशेषताएँ,

अनुवाद प्रक्रिया, अनुवादक

इकाई—पांच (क) संस्कृति और राष्ट्रीय एकीकरण : योगेश अटल

(ख) घटनाओं, समारोहों आदि का प्रतिवेदन, विभिन्न प्रकार के निमंत्रण पत्र

मूल्यांकन योजना : प्रत्येक इकाई से एक-एक प्रश्न पूछा जाएगा। प्रत्येक प्रश्न में आंतरित विकल्प होगा। प्रत्येक प्रश्न के 15 अंक होंगे। इसलिए प्रत्येक प्रश्न के दो भाग 'क' और 'ख' होंगे एवं अंक क्रमशः 8 एवं 7 अंक होंगे। प्रश्नपत्र का पूर्णांक 75 निर्धारित है।

पाठ्यक्रम संशोधन का औचित्य —

निर्धारित पाठ का अध्ययन एवं हिन्दी भाषा प्रयोग की व्यवहारिक प्रणालियों से विधार्थियों को परिचित कराना तथा भाषा प्रयोग की सामान्य अशुद्धियों को दूर करने की दृष्टि से पाठ्यक्रम तैयार किया गया है। विधार्थियों के लिए पाठ्यक्रम का विस्तार बहुत ज्यादा न हो इसका ध्यान रखा गया है।



अध्यक्ष— हिंदी अध्ययन मंडल

FOUNDATION COURSE
PAPER - II
ENGLISH LANGUAGE

M.M. 75

UNIT-1 Basic Language skills : Grammar and Usage.

Grammar and Vocabulary based on the prescribed text.
To be assessed by objective / multiple choice tests.

(Grammar - 20 Marks
Vocabulary - 15 Marks)

05

UNIT-2 Comprehension of an unseen passage.

This should imply not only (a) an understanding of the passage in question, but also (b) a grasp of general language skills and issues with reference to words and usage within the passage and (c) the Power of short independent composition based on themes and issues raised in the passage.

To be assessed by both objective multiple choice and short answer type tests.

10

UNIT-3 Composition : Paragraph writing

10

UNIT-4 Letter writing (The formal and one Informal)

Two letters to be attempted of 5 marks each. One formal and one Informal.

15

UNIT-5 Texts :

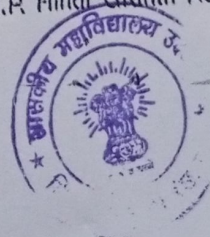
Short prose pieces (Fiction and not fiction) short poems, the pieces should cover a range of authors, subjects and contexts. With poetry it may sometimes be advisable to include pieces from earlier periods, which are often simpler than modern examples. In all cases, the language should be accessible (with a minimum of explanation and reference to standard dictionaries) to the general body of students schooled in the medium of an Indian language.

Students should be able to grasp the contents of each piece; explain specific words, phrases and allusions; and comment on general points of narrative or argument. Formal Principles of Literary criticism should not be taken up at this stage.

To be assessed by five short answers of three marks each.

BOOKS PRESCRIBED -

English Language and Indian Culture - Published by M.P. Hindi Granth Academy
Bhopal.



PAPER - II

ENGLISH LANGUAGE (Paper Code-0172)

The question paper for B.A./B.Sc./B.Com./B.H.Sc., English Language and cultural values shall comprise the following units :

UNIT-I Short answer questions to be asked by (Five short answer questions of three marks each) 15 Marks

UNIT-II (a) Reading comprehension of an unseen passage 05 Marks
(b) Vocabulary

UNIT-III Report-Writing 10 Marks

UNIT-IV Expansion of an idea 10 Marks

UNIT-V Grammar and Vocabulary based on the prescribed text book. 20+15 Marks

Note : Question on all the units shall asked from the prescribed text which will comprise specimens of popular creative/writing and the following it any

(a) Matter & technology

(i) State of matter and its structure

(ii) Technology (Electronics Communication, Space Science)

(b) Our Scientists & Institutions

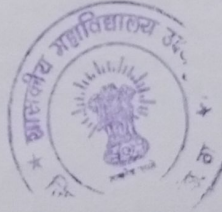
(i) Life & work of our eminent scientist Arya Bhattacharya, Kaurd Charak Shusruta, Nagarjuna, J.C. Bose and C.V. Raman, S. Ramanujam, Homi J. Babha Birlal Sahani.

(ii) Indian Scientific Institutions (Ancient & Modern)

Books Prescribed :

Foundation English for U.G. Second Year - Published by M.P. Hindi Granth Academy, Bhopal.

B.A.-Ret-II



(7)

PART - II
ENGLISH LANGUAGE
(Paper Code-0232)

M.M. 75

The question paper for B.A./B.Sc./B.Com./B.H.Sc. III Foundation course, English Language and General Answers shall comprise the following items :

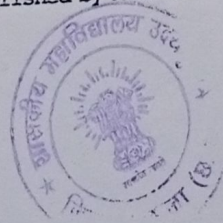
Five question to be attempted, each carrying 3 marks.

UNIT-I	Essay type answer in about 200 words. 5 essay type question to be asked three to be attempted.	15
UNIT-II	Essay writing	10
UNIT-III	Precis writing	10
UNIT-IV	(a) Reading comprehension of an unseen passage	05
	(b) Vocabulary based on text	10
UNIT-V	Grammar Advanced Exercises	25

Note : Question on unit I and IV (b) shall be asked from the prescribed text. Which will comprise of popular create writing and the following items. Minimum needs housing and transport Geo-economic profile of M.P. communication Educate and culture. Women and Worm in Empowerment Development, management of change, physical quality of life. War and human survival, the question of human social value survival, the question of human social value, new Economic Philosophy Recent Diberalliation Method) Demoration docontralisation (with reference to 73, 74 constitutional Amendment.

Books Prescribed :

Aspects of English Language And Development - Published by M.P. Hindi Granth Academy, Bhopal.



संशोधित पाठ्यक्रम

बी. ए. भाग-1

हिन्दी साहित्य

प्रथम- प्रश्न पत्र

(प्राचीन हिन्दी काव्य)

पूर्णांक 75

(पेपर कोड- 0103)

उद्देश्य एवं प्रस्तावना-

प्राचीन से तात्पर्य है- आधुनिक काल से पूर्व का काल। सही अर्थ में हिन्दी भाषा और साहित्य का विकास आदिकाल से शुरू होता है। इसमें धार्मिक तथा ऐतिहासिक दो प्रकार का साहित्य मिलता है, जो प्रबंध, मुक्तक, रासो, फागु, चरित, सुभाषित आदि विविध काव्यरूपों में अभिव्यंजित है। मध्यकालीन साहित्य की पृष्ठभूमि के रूप में इसे प्रतिष्ठापित किया जाता है।

मध्यकालीन काव्य में भक्तिकाव्य, जहां लोक जागरण को स्वर देने वाला है, वहीं रीतिकाल अपने लौकिक- श्रृंगारिका, परिदृश्य में तत्कालीन सामाजिक, सांस्कृतिक, राजनीतिक स्थितियों को बेलौस अभिव्यंजित करता है। अतः भाषा, संस्कृति, विचार, मानवता, काव्यरूपता, लौकिकता- पारलौकिकता, आदि दृष्टियों से इसका अध्ययन अत्यावश्यक है।

पाठ्य विषय-

1. कबीर (कबीर- कांतिकुमार जैन, प्रारंभिक 50 साखियाँ)
2. जायसी- (संक्षिप्त पद्यावत- श्यामसुंदर दास, नागमती वियोग वर्णन)
3. सूर (भ्रमर गीत सार- सं. आचार्य रामचन्द्र शुक्ल, प्रारंभिक 25 पद)
4. तुलसी - "रामचरित मानस" के सुंदरकाण्ड से प्रारंभिक 30 दोहे चौपाई छंद साहित्य
5. घनानन्द (घनानन्द- सं. विश्वनाथ प्रसाद मिश्र, प्रारंभिक 25 छंद)

द्रुत पाठ हेतु निम्नांकित तीन कवियों का अध्ययन किया जावेगा- जिसमें से किन्हीं दो पर लघुउत्तरीय प्रश्न पूछे जायेंगे-

1. विद्यापति
2. रहीम
3. रसखान

अंक विभाजन-

1. व्याख्याएँ (3) - 21 अंक
2. आलोचनात्मक प्रश्न (2) - 24 अंक
3. लघुउत्तरीय प्रश्न (5) - 15 अंक
4. वस्तुनिष्ठ प्रश्न (15) - 15 अंक



संशोधित
बी. ए. भाग-1
हिन्दी साहित्य
द्वितीय- प्रश्न पत्र
हिन्दी कथा साहित्य
(पेपर कोड- 0104)

पूर्णांक 75

उद्देश्य एवं प्रस्तावना-

गद्य की प्रमुख विधाओं का इतना द्रुत विकास इनकी लोकप्रियता का प्रमाण प्रस्तुत करता है। इसमें आधुनिक जीवन, अपनी विविध कमियों के साथ यथार्थ रूप में अभिव्यंजित हुआ है। जीवन की अनुभूतियाँ, संवेदनाओं तथा विविध परिस्थितियों के साक्षात्कार के लिए इनका अध्ययन सर्वथा अपेक्षित है।

पाठ्य विषय-

व्याख्या एवं आलोचनात्मक प्रश्नों के लिए एक उपन्यास एवं आठ कहानीकारों की एक- एक प्रतिनिधि कहानी का अध्ययन आवश्यक है।

उपन्यास	1. प्रेमचंद	- गबन
कहानी	1. प्रेमचंद	- कफन
	2. जयशंकर प्रसाद	- आकाश दीप
	3. यशपाल	- परदा
	4. फणीश्वनाथ रेणु	- ठेस
	5. मोहन राकेश	- मलबे का मालिक
	6. भीष्म साहनी	- चीफ की दावत
	7. गुलशेर खाँ शानी	- जली हुई रस्सी
	8. रांगेय राघव	- गदल

द्रुत पाठ के लिए निम्नांकित तीन कथाकारों का अध्ययन अपेक्षित है, जिनमें से किन्हीं दो पर लघुउत्तरीय प्रश्न पूछे जावेंगे-

1. उपेन्द्रनाथ अशक, 2. बाल शौरि रेड्डी 3. शिवानी

अंक विभाजन-	व्याख्या (3)	21 अंक
	आलोचनात्मक प्रश्न (2)	24 अंक
	लघुउत्तरीय प्रश्न (5)	15 अंक
	वस्तुनिष्ठ प्रश्न (15)	15 अंक



संशोधित
बी. ए. भाग-2
हिन्दी साहित्य
प्रथम प्रश्न पत्र

अर्वाचीन हिन्दी काव्य (पेपर कोड- 0173)

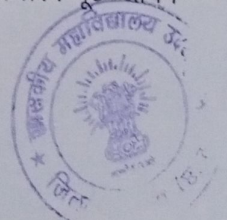
पूर्णांक- 75

प्रस्तावना- आधुनिक काव्य आधुनिकता की समस्त विशेषताओं को समेटे हुए है। स्वतंत्रता प्राप्ति के पूर्व की भाव- भाषा, शिल्प, अन्तर्वस्तु सम्बन्धी समस्त विकास धारा यहां सजीव रूप में देखी जा सकती है। इसे अनदेखा करना मनुष्य की विकास यात्रा को नजर अंदाज करना है। इस यात्रा के साक्षात्कार के लिए आधुनिक काव्य का अध्ययन अपेक्षित ही नहीं अपितु अनिवार्य हैं।

पाठ्य विषय-

1. मैथिलीशरण गुप्त
 2. सूर्यकान्त त्रिपाठी निराला
 3. सुमित्रानंदन पंत
 4. माखन लाल चतुर्वेदी
 5. स. ही. वात्स्यायन अज्ञेय
- भारत- भारती की कविताएँ
 - (1) सखि बसन्त आया।
 - (2) वर दे, वीणा वादिनी वर दे।
 - (3) हिन्दी के सुमनों के प्रति पत्र।
 - (4) तोड़ती- पत्थर।
 - (5) राजे ने अपनी रखवाली की।
 - (1) बादल।
 - (2) परिवर्तन 2 पद (1.खोलता इधर जन्मलोचन
 2. आज का दुख कल का आल्हाद)
 - (3) ताज।
 - (4) झंझा में नीम।
 - (5) भारत माता।
 - (1) बलि पंथी से।
 - (2) साँझ और ढोलक की थापें।
 - (3) मैं बेच रही हूँ, दही।
 - (4) उलाहना।
 - (5) निः शस्त्र सेनानी।
 - (1) सबेरे उठा तो धूप खिली थी।
 - (2) साम्राज्ञी का नैवेद्य दान।
 - (3) घर।
 - (4) चांदनी जी लो।
 - (5) दूर्वाचल।

द्रुतपाठ हेतु निम्न कवियों का अध्ययन किया जाएगा, जिन पर लघुउत्तरीय प्रश्न पूछे जायेंगे-



1. अयोध्या सिंह उपाध्याय "हरिऔध"।
2. सुभद्रा कुमारी चौहान।
3. श्रीकांत वर्मा।

अंक विभाजन—	व्याख्याएं (3)	— 21 अंक
	आलोचनात्मक प्रश्न (2)	— 24 अंक
	लघुउत्तरीय प्रश्न (5)	— 15 अंक
	वस्तुनिष्ठ (15)	— 15 अंक
	कुल अंक	75 अंक

इकाई विभाजन—

- इकाई— 1 व्याख्या
 इकाई— 2 गुप्त, निराला
 इकाई— 3 पंत, चतुर्वेदी, अज्ञेय
 इकाई— 4 द्रुतपाठ के कवि एवं आधुनिक काव्य धारा का इतिहास
 (राष्ट्रीय काव्य धारा, छायावाद, प्रगतिवाद, प्रयोगवाद, नई कविता)
 इकाई— 5 वस्तुनिष्ठ (सम्पूर्ण पाठ्यक्रम से)



संशोधित
बी. ए. भाग-2
हिन्दी साहित्य
द्वितीय प्रश्न पत्र

हिन्दी निबंध तथा अन्य गद्य विधाएँ(पेपर कोड- 0174)

पूर्णांक- 75

पाठ्य विषय-

व्याख्या एवं आलोचनात्मक प्रश्नों के लिए एक नाटक, पांच प्रतिनिधि निबंध और पाँच एकांकी का निर्धारण किया गया है।

नाटक- अंधेरी नगरी- भारतेन्दु हरिश्चन्द्र

निबंध-	1. क्रोध	- आचार्य रामचन्द्र शुक्ल।
	2. बसन्त	- डॉ. हजारी प्रसाद द्विवेदी।
	3. उस अमराई ने राम- राम कही है	- डॉ. विद्यानिवास मिश्र।
	4. काव्येषु नाट्यम् रम्यम्	- बाबू गुलाब राय।
	5. बेईमानी की परत	- हरिशंकर परसाई
एकांकी-	1. औरंगजेब की आखिरी रात	- डॉ. रामकुमार वर्मा
	2. स्ट्राईक	- भुनेश्वर
	3. एक दिन	- लक्ष्मीनारायण मिश्र
	4. दस हजार	- उदयशंकर भट्ट
	5. मम्मी ठकुराईन	- डॉ. लक्ष्मीनारायण लाल

द्रुत पाठ के लिए तीन गद्यकारों का अध्ययन किया जायेगा, जिन पर लघुउत्तरीय प्रश्न पूछे जायेंगे।

- | | | |
|----------------------|------------------|---------------|
| 1. राहुल सांकृत्यायन | 2. महादेवी वर्मा | 3. हबीब तनवीर |
|----------------------|------------------|---------------|

अंक विभाजन- व्याख्याएं (3)	- 21 अंक
आलोचनात्मक प्रश्न (2)	- 24 अंक
लघुउत्तरीय प्रश्न (5)	- 15 अंक
वस्तुनिष्ठ (15)	- 15 अंक
कुल अंक	75 अंक

इकाई विभाजन-

इकाई- 1 व्याख्या

इकाई- 2 अंधेरी नगरी एवं क्रोध, बसन्त, उस अमराई ने राम- राम कही हैं।

इकाई- 3 औरंगजेब की आखिरी रात, स्ट्राईक, एक दिन, दस हजार, मम्मी ठकुराईन

इकाई- 4 द्रुतपाठ के गद्यकार- राहुल सांकृत्यायन, महादेवी वर्मा, हबीब तनवीर।

इकाई- 5 वस्तुनिष्ठ (समग्र पाठ्य विषय से)



संशोधित पाठ्यक्रम
बी. ए. भाग- 3
हिन्दी साहित्य
प्रथम प्रश्न पत्र
जनपदीय भाषा- साहित्य (छत्तीसगढ़ी)
(पेपर कोड- 0233)

प्रस्तावना-

हिन्दी केवल खड़ी बोली नहीं है, बल्कि एक बहुत बड़ा भाषिक समूह है। हिन्दी जगत में अनेक विभाषाएं, बोलियाँ और उपबोलियाँ विद्यमान हैं जिनमें सकल साहित्य सम्पदा है। इनके सम्यक अध्ययन और अन्वेषण की आवश्यकता है। जनपदीय भाषा छत्तीसगढ़ी निरन्तर विकास की ओर अग्रसर हो रही है अस्तु, इस भाषा का और इसमें रचित साहित्य का इतिहास- विकास स्पष्ट करते हुए इनसे संबंधित प्रमुख रचनाकारों का आलोचनात्मक अनुशीलन करना हिन्दी के वृहत्तर हित में होगा। छत्तीसगढ़ी भाषा का पाठ्यक्रम निम्न बिन्दुओं पर आधारित हैं-

- (क) छत्तीसगढ़ी भाषा का इतिहास- विकास
- (ख) छत्तीसगढ़ी भाषा में रचित साहित्य का इतिहास
- (ग) छत्तीसगढ़ी भाषा के प्रमुख प्राचीन एवं अर्वाचीन रचनाकारों की कृतियों का अध्ययन।

पाठ्य विषय-

रचनाएँ-

- (1) प्राचीन कवि संत धर्मदास के 3 पद
 - 1. गुरु पड़या लागों नाम लखा दीजो हो।
 - 2. नैना आगे ख्याल घनेरा।
 - 3. भजन करौ भाई रे, अइसन तन पाय के।(सन्दर्भ- धर्मदास के शब्दावली से उद्धृत)
- (2) लखनलाल गुप्त का गद्य-
 - 1. सोनपान(गद्य- पुस्तक 'सोनपान' के उद्धृत)
- (3) अर्वाचीन रचनाकार
 - डॉ. सत्यभामा आडिल रचित गद्य
 - 1. सीख सीख के गोठ(गद्य पुस्तक 'गोठ' के उद्धृत)
- (4) डॉ. विनय पाठक की कविताएँ-
 - 1. तँय उठथस सुरुज उथे
 - 2. एक किसिम के नियाव('अकादसी और अनचिन्हार' पुस्तक से उद्धृत)



- (5) मुकुन्द कौशल— छत्तीसगढ़ी गजल
“छै बित्ता के मनखे देखों..... से— मछरी मन लाख लेथे” तक
(पुस्तक ‘छत्तीसगढ़ी गजल’ के पृष्ठ 17 से उद्धृत)

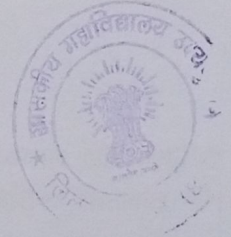
द्रुतपाठ के रचनाकार— (व्यक्तित्व एवं कृतित्व)

1. सुन्दर लाल शर्मा
2. कपिलनाथ कश्यप
3. रामचन्द्र देशमुख (रंगकर्मी)

अंक विभाजन— व्याख्याएं (3)	— 21 अंक
आलोचनात्मक प्रश्न (2)	— 24 अंक
लघुउत्तरीय प्रश्न (5)	— 15 अंक
वस्तुनिष्ठ (15)	— 15 अंक
कुल अंक	75

इकाई विभाजन

इकाई एक	— व्याख्या
इकाई दो	— प्राचीन एवं अर्वाचीन रचनाकार
इकाई तीन	— (अ) छत्तीसगढ़ी भाषा का इतिहास (ब) छत्तीसगढ़ी साहित्य का इतिहास
इकाई चार	— द्रुत पाठ के तीन रचनाकार
इकाई पाँच	— वस्तुनिष्ठ / (सम्पूर्ण पाठ्यक्रम से)



संशोधित पाठ्यक्रम
बी.ए. भाग- 3
द्वितीय प्रश्न पत्र
हिन्दी भाषा- साहित्य का इतिहास तथा काव्यांग विवेचन
(पेपर कोड- 0234)

प्रस्तावना-

हिन्दी भाषा का इतिहास जितना प्राचीन है, उतना ही गुढ़- गहन भी। इसमें रचित साहित्य ने लगभग डेढ़ हजार वर्षों का इतिहास पूरा कर लिया है इसलिए हिन्दी भाषा और साहित्य के ऐतिहासिक विवेचन की बड़ी आवश्यकता है। इसी के साथ- साथ हिन्दी ने अपना जो स्वतंत्र साहित्य शास्त्र निर्मित किया है, उसे भी रूपायित करने की आवश्यकता है। इसके संज्ञान द्वारा विद्यार्थी की मर्मग्राहिणी प्रतिभा का विकास होगा और ऐतिहासिक परिप्रेक्ष्य में शुद्ध साहित्यिक विवेक का सन्निवेश होगा।

पाठ्य विषय-

(क) हिन्दी भाषा का स्वरूप विकास- हिन्दी की उत्पत्ति, हिन्दी की मूल आकर भाषाएँ तथा विभिन्न विभाषाओं का विकास। हिन्दी भाषा के विभिन्न रूप-

1. बोलचाल की भाषा
2. रचनात्मक भाषा
3. राष्ट्रभाषा
4. राजभाषा
5. सम्पर्क भाषा
6. संचार भाषा

हिन्दी का शब्द भण्डार- तत्सम, तद्भव, देशज, आगत शब्दावली।

(ख) हिन्दी साहित्य का इतिहास :- आदिकाल, पूर्व मध्यकाल, उत्तर मध्यकाल और आधुनिक काल की सामाजिक, सांस्कृतिक पृष्ठभूमि, प्रमुख युग प्रवृत्तियाँ, विशिष्ट रचनाकार और उनकी प्रतिनिधि कृतियाँ, साहित्यिक विशेषताएँ।

(ग) काव्यांग

- काव्य का स्वरूप एवं प्रयोजन।

रस के विभिन्न भेद, विभिन्न अंग, विभावादि तथा उदाहरण।

प्रमुख 5 छंद

- दोहा, सोरठा, चौपाई, कुण्डलियाँ, सवैया।

शब्दालंकार

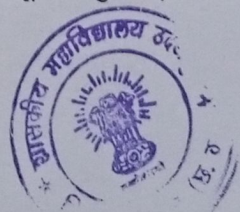
- अनुप्रास, यमक, श्लेष, वक्रोक्ति, पुररुक्ति प्रकाश।

अर्थालंकार

- उपमा, रूपक, उत्प्रेक्षा, अतिशयोक्ति, भ्रांतिमान।

संदर्भ ग्रन्थ-

- (1) हिन्दी साहित्य का इतिहास संपादक- डॉ. सुशील त्रिवेदी व बाबूलाल शुक्ल (प्रकाशक- म. प्र. उ. शि. अनुदान आयोग)
- (2) राजभाषा हिन्दी- मलिक मोहम्मद (प्रभात प्रकाशन दिल्ली)



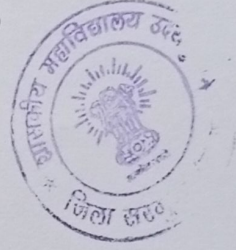
(3) हिन्दी भाषा- डॉ. भोलानाथ तिवारी।

अंक विभाजन-

आलोचनात्मक (4)	- 44 अंक
लघुउत्तरीय प्रश्न (4)	- 16 अंक
वस्तुनिष्ठ प्रश्न (15)	- 15 अंक
कुल अंक- 75 अंक	

इकाई विभाजन-

- इकाई- 1 हिन्दी भाषा का स्वरूप- विकास- (खण्ड- 'क')
इकाई- 2 हिन्दी का शब्द भण्डार- (खण्ड 'क' का अंतिम भाग)
इकाई- 3 हिन्दी साहित्य का इतिहास- (खण्ड- ख)
इकाई- 4 काव्यांग- रस, छंद, अलंकार (भाग- ग)
इकाई- 5 लघुउत्तरीय एवं वस्तुनिष्ठ प्रश्न (सम्पूर्ण पाठ्यक्रम से)



ENGLISH LITERATURE

PAPER -I

INDIAN WRITING IN ENGLISH

M.M.: 75

(Paper Code-0235)

All questions are compulsory.

- Note : 1. Unit - I is compulsory. Two passages from each of the units II to V to be set and three to be attempted. (3x5 = 15)
2. Short answer questions from unit VII, seven to be set and five to be attempted. (5x2 = 10)
3. Long-answer questions from unit II to VI. Five questions from each unit with internal choice to be set. (5x10 = 50)

UNIT-I Annotations and short answer questions.

UNIT-II Poetry -

Toru Dutt	-	'Our Casurina Tree'
Tagore	-	Songs 1 & 103 from 'Gitanjali'
Sarojini Naidu	-	'The Ecstasy', 'The Lotus'
UNIT-III Kamla Das	-	'The old playhouse'
Gauri Deshpandey	Or	'The female of the species'
Jayant Mahapatra	-	'Dawn at Puri'
K.N. Daruwala	Or	'Death by Burial'
Shiv K. Kumar	-	'Indian Women'

UNIT-IV Prose -

Nirad C. Choudhary	-	My Birth Place.
Dr. S. Radhakrishnan	-	The call of the suffering.

UNIT-V Drama -

Girish Karnad	-	Hayavadana
	Or	
Tendulkar	-	Silence ! The Court is in session.

UNIT-VI Fiction -

R.K. Narayan	-	Guide
--------------	---	-------

- UNIT-VII 1. Lyric, 2. Subjective poetry, 3. Couplet, 4. Fable, 5. Hymn, 6. Allegory, 7. Autobiography,

BOOK RECOMMENDED :

1. Indian Poetry in English, Ed. Hari Mohan Prasad, Sterling Publication.
2. An Introduction to the study of English Literature, B. Prasad.
3. A Glossary of Literary Terms - M.H. Abrams.
4. Prose of To-day - M.C. Millan.

PAPER - II

(A) AMERICAN LITERATURE

(Paper Code-0236)

All questions are compulsory.

- Note : 1. Unit-I is compulsory. Two passages from each of the units II to V to be set and three to be attempted. (3x5 = 15)

B.A.-Part-III

(14)



2 Short answer questions from unit VII, seven to be set and five to be attempted. (5x2 = 10)

3 Long-answer questions from unit II to VI. (word limit for each answer is 300-400 words) internal choice to be set. (5x10 = 50)

UNIT-I Annotations and short answer question.

UNIT-II Poetry -

Wait whitman

-

O Captain ! My Captain, when the Lilacs Last in the Dooryard Bloomed.

Carl Sandberg

-

'Who Am I ?', 'I am the People, The Mob'

UNIT-III Emily Dickinson

-

'Hope is the thing with Feather' I Felt a funeral in My Brain'

E.E. Cummings

-

'The Cambridge Ladies'

'As Freedom is a Breakfast food'

UNIT-IV Prose -

William Faulkner

-

Nobel Award Acceptance Speech

W. Carlos Williams

-

In the American Grain

Walt Whitman

-

Preface to "Leaves of Grass"

UNIT-V Drama -

Miller

-

All My Sons

Or

Eugene O'Neill

-

The Hairy Ape

UNIT-VI Fiction -

E. Hemingway

-

A Farewell to Arms

Or

W. Faulkner

-

The Sound and the Fury

UNIT-VII 1. Naturalism, 2. Realism, 3. Art for Art's sake, 4. Poetic-Drama, 5. Symbolism, 6. American Renaissance, 7. Existentialism.

BOOK RECOMMENDED :

1 American Literature, An Anthology, Ed. Fr. Egbert S. Oliver.

2 A Glossary of Literary Terms - M.H. Abrams.

PAPER - II

(B) 20TH CENTURY LITERATURE IN ENGLISH

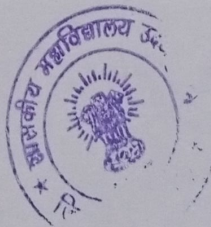
(Paper Code-0237)

The paper will be taught as an optional paper to Paper-II(A) which is a paper on American Literature. The Principle focus will be to probe the students a general background and cultural history of this period and also to make them aware of the Literary trends of the twentieth century. The Paper will comprise six units and in all six questions are to be attempted, one from each unit.

UNIT-I The following historical and literary topics will be included in this unit. Students are required to write short notes of not more than three hundred words on any two of the following topics. (10 Marks)

i The Two world wars.

ii The Russian Revolution.



- iii) The Great Depression.
- iv) The Vietnam war.
- v) Freudian Thought
- vi) Existentialism.
- vii) Absurdism.
- viii) Modernism and Post Modernism.
- ix) New Development in fiction and Drama.

UNIT-II Ten objective type questions on the life History and major poetical works of the following poets of the twentieth century will be asked in this unit. (10 Marks)

- i) W.B. Yeats (1865-1939)
- ii) Siegfried Sassoon (1886-1967)
- iii) Rupert Brooke (1887-1915)
- iv) T.S. Eliot (1888-1965)
- v) Wilfred Owen (1893-1918)
- vi) W.H. Auden (1907-1937)
- vii) Louis Macneice (1907-1963)
- viii) Stephen Spender (1909-)
- ix) Dylan Thomas (1914-1953)
- x) Philip Larkin (1922-1985)

UNIT-III (15 marks)

- | | | |
|-------------------|----|----------------------------|
| T.S. Eliot | - | 'The Waste Land' |
| | Or | |
| Wilfred Owen | - | 'Disabled' |
| Siegfried Sassoon | - | 'Attack', 'Falling Asleep' |
| Rupert Brooke | - | 'The Hill' |
| W.H. Auden | - | 'Miss Gee' |

UNIT-IV (15 marks)

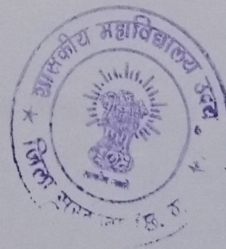
- | | | |
|---------------|----|---------------------|
| Joseph Conrad | - | 'Heart of Darkness' |
| | Or | |
| Chinua Achebe | - | 'Things Fall Apart' |

UNIT-V (Non Fictional Prose) (10 marks)

- | | | |
|----------------|---|-------------------------|
| Virginia Woolf | - | 'The Death of the Moth' |
| Graham Greene | - | 'The Lost Childhood' |

UNIT-VI (Drama) (15 marks)

- | | | |
|----------------|----|---------------------|
| Bernard Shaw | - | 'Pygmalion' |
| | Or | |
| Samuel Beckett | - | 'Waiting for Godot' |



B. A. Part-I
ENGLISH LITERATURE

There will be two literatures in English - 1550-1750 Papers, each carrying maximum marks - 75. Nine questions are to be attempted in each paper. Each question carries the marks according to the scheme mentioned in each paper.

ENGLISH LITERATURE

PAPER - I

LITERATURE IN ENGLISH - 1550-1750 (Paper Code-0105) M.M. 75

- (i) Unit-1 of annotation is compulsory, and passages to be set from Units (II to VI), atleast one from each unit, 3 to be attempted. 3x5 = 15
 - (ii) Multiple choice/objective type questions to be set unit vii, 15 to be set 10 be attempted. 1x1 = 10
 - (iii) From Unit-II to VI-8 questions to be set atleast one from each unit-5 to be attempted. 10x5 = 50
- Word Limit for each answer 300 to 400 words.

UNIT-1 ANNOTATIONS.

UNIT-2 POETRY

- (a) Shakespeare - Sonnet No. 1 From Fairest Creatures, Sonnet No. 154., The little Love God.
- (b) Milton - How Soon Hath Time the Subtle Thief of Youth ...
- (c) John Donne - Sweetest Love I Don't go, This is my play's Last Scene.

UNIT-3 POETRY

- (a) John Dryden - Portrait of Shadwell.
- (b) Alexander - Pope- From An Essay on Criticism (True ease in writing) and the world's Victor Stood subdued by sound.

UNIT-4 PROSE

- (a) Bacon Of Studies, Of Health, Of Friendship
- (b) Addison-Sir Roger at Home
- (c) Steele Of the Club.

UNIT-5 DRAMA

Shake spear - The Merchant of Venice

UNIT-6 Fiction - Swift - The Battle of the Books.

UNIT-7 Historical and Literary Topics

- (i) The Renaissance.
- (ii) Humanism.
- (iii) Reformation.
- (iv) The Restoration.
- (v) The Earlier Drama
- (vi) Petrarchism and the Sonnet Cycle.
- (vii) The Influence of Seneca and Classical Dramatic Theory
- (viii) The Elizabethan and Jacobean stage.
- (ix) Restoration Drama
- (x) The Rise of Periodical Essay



BOOKS RECOMMENDED for Unit VII in Papers I and II

- 1 Edward Albert - A History of English Literature.
- 2 Ifor Evans - A short History of English Literature.
- 3 Hudson - An Outline History of English Literature.

Both the papers of B. A. Part-I are included in the anthologies prescribed in the previous syllabus for B. A. Part-I and B. A. Part - II

ENGLISH LITERATURE

PAPER - II

LITERATURE IN ENGLISH FROM 1750-1900 (Paper Code-0106)

- Note-**
- (i) Unit-1, of annotation is compulsory, 6 passages be set from Units (II to IV) atleast one from each unit, 3 to be attempted. 3x5 = 15
 - (ii) Multiple Choice/objective type questions to be set from unit-VII, 25 to be set 10 to be attempted. 1x10 = 10
 - (iii) From Units II to VI-8 questions to be set atleast one from each Unit - 5 to be attempted. 10x5 = 50
- Word Limit for each answer 300 to 400 words.

UNIT-1 ANNOTATIONS

UNIT-2 POETRY -

- (a) Blake - Tiger, Tiger Burning Bright.
- (b) Wordsworth - Daffodils and Solitary Reaper.
- (c) Coleridge - Frost at Midnight.

UNIT-3 POETRY-

- (a) Shelley - Ode to a skylark.
- (b) Keats - Ode to Autumn.
- (c) Tennyson - Crossing the Bar.
- (d) Browning - Prospice.

UNIT-4 PROSE

- (a) Lamb - Dream Children : A Reverie
- (b) Hazlitt - On Actors and Acting

UNIT-5 Fiction Jane Austen - Pride and prejudice.

UNIT-6 Fiction Charles Dickens - David Copperfield

UNIT-7 Historical and Literary Topics.

- (1) The Reform Acts.
- (2) The Impact of Industrial ization.
- (3) Colonialism And Imperialism.
- (4) Scientific the ughts and discoveries.
- (5) Faith and Doubt.
- (6) Classical and Romantic Concepts of Imagination.
- (7) Varieties of Romantic and Victorian Poetry.
- (8) The Victorian Novel.
- (9) Realism and the Novel.
- (10) Aesthethicism.



ENGLISH LITERATURE
PAPER-I
MODERN ENGLISH LITERATURES (Paper Code-0175)

M.M. 75

All Questions are compulsory.

- Note : 1 Unit-I is compulsory. Two passages from each of the units I to V to be set and three to be attempted. (3 x 5 = 15)
- 2 Short answer questions from unit VII, seven to be set and five to be attempted. (5 x 2 = 10)
- 3 Long answer questions from unit II to VI. Five questions from each unit with internal choice to be set. (5 x 2 = 10)
- (Words limit for each answer is 300-400 words)

UNIT-I Annotations

UNIT-II (Poetry)

W.B. Yeats - 'A Prayer for My Daughter, The Second Coming'
T.S. Eliot - 'Love Song of J. Alfred Prufrock'

UNIT-III (Poetry)

Dylan Thomas - 'Lament, 'A Refusal to Mourn the Death
Larkin - 'Tbads', At Grass'

UNIT-IV (Prose)

Bertrand Russell - On the Value of Scepticism
Oscar Wilde - Happy Prince

UNIT-V (Drama)

G.B. Shaw - Pygmalion

UNIT-VI (Fiction and short-stories)

Rudyard Kipling-Kim
Short-Stories
Katherine mansfield - A Cup of Tea

- UNIT-VII. 1 Elegy,
2 Sonnet,
3 Ode,
4 Morality & Miracle Play,
5 One Act Play,
6 Interlude

BOOKS RECOMMENDED :

- 1 An Introduction to the study of English Lit. B. prasad
- 2 A Glossart of Literary Terms - M.H. Abrahamas
- 3 Prose of Today - M. Millan Pub
- 4 Short stories of Yesterday and To day - M. Millan

PAPER - II
MODERN ENGLISH LITERATURES (Paper Code-0176)

M.M. 75

All questions are compulsory.

- Note : 1. Unit I is compulsory. Two passages from each of the units II to V to be set and three to be attempted. (3x5 = 15)
2. Short answer questions from unit VII, seven to be set and five to be attempted. (5x2 = 10)
3. Long-answer questions from unit II to VI. Five questions from each unit with internal choice to be set. (5x2 = 10)
- (Words limit for each answer is 300-400 words)

UNIT-I Annotation

UNIT-II (Poetry)

Sassoon - At the Grove of Henry Vaughan.

Owen, W.H. - Strange Meeting

UNIT-III (Poetry)

Auden - Seascape

Ted Hughes - The Howling of Wolves

UNIT-IV (Prose)

Robert Lynd - Forgetting

H. Belloc - A conversation with A Reader

UNIT-V (Drama)

John Galsworthy - Strife

OR J.M. Synge - Riders of the Sea

UNIT-VI William Golding - Lord of the Flies (Fiction)

UNIT-VII 1. Simile 2. Metaphor 3. Alliteration 4. Onomatopoeia 5. Ballad 6. Epic 7. Dramatic Monologue.

BOOK RECOMMENDED -

1. Golden Treasury - Palgrave
2. A Glossary of Literary Terms - M.H. Abrams
3. An Introduction to the study of English literature - B. Prasad

प्रथम प्रश्न पत्र : राजनीतिक सिद्धान्त Paper I : Political Theory

- इकाई 1 : राजनीति विज्ञान का अर्थ, परिभाषा (आधुनिक अवधारणा सहित) । राजनीति एक विशिष्ट मानवीय व्यवहार के रूप में । शक्ति, सत्ता, प्रभाव : अर्थ, विशेषताएं, प्रकार । राजनीति विज्ञान की अध्ययन पद्धतियां : परम्परागत एवं व्यवहारवाद एवं उत्तर व्यवहारवाद ।
- Unit 1 : Meaning and Definition of Political Science (with modern concept). Politics as a specific human behaviour. Power, Authority and Influence : meaning, features and kinds. Method of Study to Political Science : Traditional , Behaviouralism and Post Behaviouralism.
- इकाई 2 : राज्य एवं उसके आवश्यक तत्व । राज्योत्पत्ति के विभिन्न सिद्धान्त, मार्क्सवादी सिद्धान्त । सावयविक सिद्धान्त ।
- Unit 2 : State and its essential elements. Various theories of the origin of the State, Marxist theory . Organismic Theory.
- इकाई 3 : सम्प्रभुता एवं उसकी बहुलवादी आलोचना । अधिकार : अर्थ, प्रकार , सिद्धान्त । कर्तव्य । स्वतन्त्रता : अर्थ , प्रकार, संरक्षण । समानता : अर्थ , प्रकार एवं स्वतन्त्रता से सम्बंध । प्रजातन्त्र : परिभाषा, व्यापक अर्थ, चुनौतियां, सफलता के लिए आवश्यक शर्तें , गुण-दोष । प्रत्यक्ष प्रजातन्त्र ।
- Unit 3 : Sovereignty and its pluralistic criticism. Rights : meaning, kinds and theories. Duties. Liberty : meaning, kinds , safeguards. Equality : meaning, kinds and relations with Liberty. Democracy : meaning, comprehensive meaning, challenges, conditions for its success, merits and demerits. Direct Democracy.
- इकाई 4 : शासन के प्रकार : एकात्मक व संघात्मक , संसदीय व अध्यक्षीय, निरंकुशतन्त्र । शासन के अंग : कार्यपालिका, व्यवस्थापिका, न्यायपालिका । शक्ति पृथक्करण का सिद्धान्त व नियंत्रण -संतुलन का सिद्धान्त । संविधान : अर्थ , प्रकार । प्रतिनिधित्व के सिद्धान्त एवं निर्वाचन प्रणालियां ।
- Unit 4 : Kinds of Government : Unitary and Federal, Parliamentary and Presidential. Dictatorship. Organs of Government : Executive, Legislature and Judiciary. Theory of Separation of Powers and Checks and Balances. Constitution : meaning and kinds. Theories of representation and Electoral Process.
- इकाई 5 : लोककल्याणकारी राज्य । दल पद्धति : अर्थ , प्रकार, पद्धति । दबाव समूह : अर्थ, प्रकार, तकनीक । सामाजिक परिवर्तन : अर्थ, विशेषताएं , सिद्धान्त । नारीवाद, राष्ट्रवाद ।
- Unit 5 : Public Welfare State. Party System : meaning , kinds , process. Pressure Groups : meaning, kinds and technique. Social Change : meaning, characteristics, theories. Feminis. Nationalism.



राजनीतिक सिद्धांत

बी.ए. प्रथम

प्रथम प्रश्न पत्र

1. ओ.पी. गाबा, समकालीन राजनीतिक सिद्धांत, मयूर पेपर बैक्स नोएडा।
2. ओ.पी. गाबा, राजनीति सिद्धांत की रूपरेखा, मयूर पेपर बैक्स नोएडा।
3. जे.सी. जौहरी व सीमा जौहरी, आधुनिक राजनीति विज्ञान के सिद्धांत, स्टर्लिंग पब्लिकेशन।
4. पंत गुप्ता जैन, राजनीति शास्त्र के आधार, सेन्ट्रल पब्लिकेशिंग हाऊस इलाहाबाद।
5. प्रो. आनंद प्रकाश अवस्थी, भारतीय शासन एवं राजनीति, लक्ष्मीनारायण अग्रवाल, आगरा।
6. Andrew Haywood Political Theory, An Introduction.
- 7- O.P. Gaba An Introduction to Political Theory, Macmillan India Ltd.



द्वितीय प्रश्न पत्र : भारतीय शासन एवं राजनीति Paper II : Indian Government and Politics

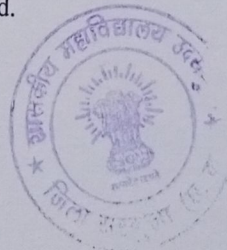
- इकाई 1 : भारतीय राष्ट्रीय आन्दोलन : 1858 का प्रथम स्वतन्त्रता संग्राम, असहयोग आन्दोलन, सविनय अवज्ञा आन्दोलन, भारत छोड़ो आन्दोलन । भारत का संविधानिक विकास : 1858, 1909, 1919 और 1935 का भारत शासन अधिनियम ।
- Unit 1 : Indian National Movement : First Independence Movement 1858, Non cooperation Movement, Civil Disobedience Movement and Quit India Movement. Constitutional Development of India : Govt. of India Act of 1858, 1909, 1919 and 1935.
- इकाई 2 : भारतीय संविधान : विशेषताएं , प्रस्तावना, स्रोत, । संघीय व्यवस्था , मौलिक अधिकार, मूल कर्तव्य, नीति निर्देशक तत्व । संविधान संशोधन प्रक्रिया ।
- Unit 2 : Constitution of India : Characteristics, Preamble, Sources. Federal System. Fundamental Rights and Duties, Directive Principles of State Policy. Constitution Amendment Process.
- इकाई 3 : संघीय कार्यपालिका : राष्ट्रपति, उपराष्ट्रपति, मन्त्रिपरिषद् और प्रधानमन्त्री । संघीय व्यवस्थापिका : संसद : लोकसभा और राज्यसभा । संसदीय प्रक्रिया ।
- Unit 3 : Union Executive : President , Vice President, Council of Ministers and Prime Minister. Union Legislature : Parliament: Lok Sabha and Rajya Sabha. Parliamentary Procedure.
- इकाई 4 : संघीय न्यायपालिका : सर्वोच्च न्यायालय : गठन, क्षेत्राधिकार, न्यायिक पुनरावलोकन, न्यायिक सक्रियतावाद । राज्य कार्यपालिका : राज्यपाल , मन्त्रिपरिषद् और मुख्यमन्त्री ।
- Unit 4 : Union Judiciary : Supreme Court : Organisation, Jurisdiction, Judicial Review, Judicial Activism. State Executive : Governor, Council of Ministers and Chief Minister.
- इकाई 5 : राज्य व्यवस्थापिका : विधानसभा एवं विधानपरिषद् । निर्वाचन आयोग व चुनाव सुधार । राष्ट्रीय व क्षेत्रीय दल । भारतीय राजनीति के प्रमुख मुद्दे : जाति, धर्म, भाषा और क्षेत्र । पंचायती राज व्यवस्था ।
- Unit 5 : State Legislature : Legislative Assembly and Legislative Council. Election Commission and Election Reforms. National and Regional Parties. Major issues of Indian Politics : Caste, Religion, Language and Region. Panchayati Raj System.

संदर्भ पुस्तकें (Reference Books)

8. डॉ. सुभाष कश्यप, भारत का संवैधानिक विकास और संविधान, हिन्दी माध्यम कार्यान्वयन निदेशालय दिल्ली विश्वविद्यालय ।
9. डॉ. सुभाष कश्यप, हमारी संसद, भारत की संसद एक परिचय, राष्ट्रीय पुस्तक न्यास ।
10. डॉ. रूपा मंगलानी, भारतीय शासन एवं राजनीति, राजस्थान हिन्दी ग्रंथ अकादमी जयपुर ।

11- M.V. Pylee , Constitutional History of India , S.Chand.

12- D.D. Basu Indian Constitution



प्रथम प्रश्नपत्र : राजनीतिक चिन्तन Paper I : Political Thought

- इकाई 1 : प्लेटो : आदर्श राज्य — न्याय, शिक्षा, साम्यवाद, दार्शनिक शासक ।
अरस्तू : राज्य, दासप्रथा, नागरिकता , क्रान्ति ।
- Unit 1 : Plato : Ideal State : Justice, Education, Communism , Philosopher King.
Aristotle : State, Slavery, Citizenship , Revolution.
- इकाई 2 : मैकियावेली : युग का शिशु, धर्म व नैतिकता, राजा के कर्तव्य और आचरण ।
हॉब्स : सामाजिक समझौता सिद्धान्त — लेवियाथन । लॉक : सामाजिक समझौता सिद्धान्त ।
रुसो : सामाजिक समझौता सिद्धान्त , सामान्य इच्छा ।
- Unit 2 : Machiavelli : Child of his times, Religion and Morality, Duties and Conduct of King. Hobbes : Social Contract Theory: Leviathan. Locke : Social Contract Theory. Rousseau : Social Contract Theory and General Will.
- इकाई 3 : बेंथम : उपयोगितावाद । मिल : उपयोगितावाद में संशोधन, स्वतंत्रता और प्रतिनिधि शासन ।
ग्रीन : राजनीतिक विचार । मार्क्स : राजनीतिक विचार ।
- Unit 4 : Bentham : Utilitarianism. Mill : Amendment in Utilitarianism. Liberty and Representative Government. Green : Political Thoughts. Marx : Political Thoughts.
- इकाई 4 : आदर्शवाद, व्यक्तिवाद, उदारवाद, समाजवाद, फासीवाद : विशेषताएं और आलोचना ।
- Unit 4 : Idealism, Individualism, Liberalism, Socialism, Fascism : Features and Criticism.
- इकाई 5 : मनु और कौटिल्य : सप्तांग सिद्धान्त, राजा और राजपद, प्रशासकीय व्यवस्था, राज्यमण्डल ।
गांधी : सत्य, अहिंसा, सत्याग्रह एवं राजनीतिक विचार । अम्बेडकर : राजनीतिक एवं सामाजिक विचार
दीनदयाल उपाध्याय : एकात्ममानववाद ।
- Unit 5 : Manu and Kautilya : Saptang Theory, King and Kingship, Administrative System, Rajyamandal.
Gandhi : Truth , Non violence , Satyagrah and Political thoughts.
Ambedkar : Political and Social thoughts.
Deen Dayal Upadhyay : Akatmamanavvad.

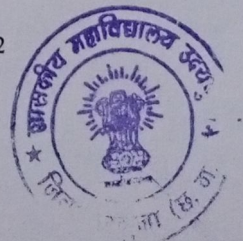


बी.ए.द्वितीय वर्ष
प्रथम प्रश्न पत्र राजनीतिक चिन्तन

क्र	पुस्तक का नाम	लेखक का नाम
1.	राजनीतिक चिन्तन की रूपरेखा	ओ.पी. गावा
2.	राजनीतिक चिन्तन का इतिहास	जीवन मेहता
3.	राजनीतिक चिन्तन का इतिहास	बी.एल. फाडिया
4.	पाश्चात्य एवं आधुनिक राजनीतिक चिन्तन का इतिहास	प्रभु दत्त शर्मा
5.	पाश्चात्य राजनीतिक चिन्तन	जे.पी. सूद
6.	भारतीय राजनीतिक चिन्तन	वी.पी. वर्मा
7.	भारतीय राजनीतिक चिन्तन	अवस्था एवं अवस्था
8.	भारतीय राजनीतिक चिन्तन	आ.पी. गावा
9.	पालाटकल थॉट	सा.एल. बपर
10.	हिस्ट्री ऑफ पालीटिकल थियरी	जार्ज एच सेबाइन
11.	रिसेन्ट पालीटिकल थॉट	फ्रान्सीस डब्लू कोकर
12.	मास्टर ऑफ पालीटिकल थॉट	माईकल बी. फास्टर
13.	ग्रेट पालीटिकल थॉट	विटियम इवेस्टीन

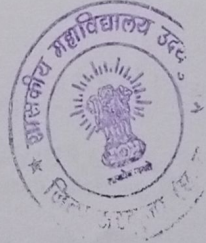
Reference:-

- W.A. Dunning: **A History of Political Theories**, (Vols. I, II & III), New York: Mcmillan, 1930
- G.H. Sabine: **A History of Political Theory** (English & Hindi), New Delhi: Oxford & IBH Publishing Co., 1963
- C.L. Wayper: **Political Thought** (English & Hindi), Bombay: B.I. Publications Pvt. Ltd., 1974
- E. Barker: **Greek Political Theory: Plato and His Predecessors**, London: Methuen & Co. Ltd., 1918
- **Political Thought in England**, London: Thornton Butterworth Ltd., 1928
- Gettell: **History of Political Thought** (English & Hindi)
- K.P. Jaiswal: **Hindu Polity** (English & Hindi), Bangalore: Bangalore Printing & Publishing Co., 1955
- V.P. Verma: **Modern Social and Political Thought of India**, Agra: L.N. Agrawal Educational Publishers, 1961
- N.C. Bandopadhyaya: **Development of Hindu Polity and Political Theory**, New Delhi: Munshiram & Manoharlal, 1980
- Arvind Sharma, **Modern Hindu Thought: The Essential Texts**, New Delhi: OUP, 2002
- John Dunn, **Western Political Theory in the Face of the Future**, New York: Cambridge University Press, 1993
- Jonathan Wolff, **An Introduction to Political Philosophy**, Revised Edition, Oxford: OUP, 2006
- J.E. Parsons Jr., **Essays in Political Philosophy**, Washington D.C., University Press of America, 1982



द्वितीय प्रश्नपत्र : तुलनात्मक शासन एवं राजनीति Paper II : Comparative Government and Politics

- इकाई 1 : ब्रिटिश संविधान : विकास, विशेषताएं, कार्यपालिका, व्यवस्थापिका, न्यायपालिका ।
- Unit 1 : British Constitution : Evolution, Salient Features, Executive, Legislature and Judiciary.
- इकाई 2 : संयुक्त राज्य अमेरिका का संविधान : विशेषताएं, कार्यपालिका, व्यवस्थापिका, न्यायपालिका, शक्ति पृथक्करण व नियंत्रण संतुलन का सिद्धान्त ।
- Unit 2 : Constitution of United States of America : Salient Features, Executive, Legislature and Judiciary. Theory of Separation of Powers and checks and balances.
- इकाई 3 : स्विटजरलैण्ड का संविधान : विशेषताएं, कार्यपालिका, व्यवस्थापिका, न्यायपालिका, प्रत्यक्ष प्रजातन्त्र । Unit 3 : Constitution of Switzerland : Salient Features, Executive, Legislature and Judiciary. Direct Democracy.
- इकाई 4 : चीन का संविधान : विशेषताएं, कार्यपालिका, व्यवस्थापिका, न्यायपालिका, साम्यवादी दल ।
- Unit 4 : Constitution of China : Salient Features, Executive, Legislature and Judiciary. Communist Party.
- इकाई 5 : तुलनात्मक राजनीति : अर्थ, परिभाषा, । ईस्टन का व्यवस्था सिद्धान्त, आमण्ड का संरचनात्मक-प्रकार्यात्मक उपागम । राजनीतिक विकास, राजनीतिक समाजीकरण, राजनीतिक संस्कृति की अवधारणा ।
- Unit 5 : Comparative Politics : meaning, Definition. System Theory of David Easton, Structural-functional Approach of Almond. Concept of Political Development, Political Socialisation, Political Culture



बी.ए. द्वितीय वर्ष
प्रश्न पत्र
तुलनात्मक शासन एवं राजनीति

सन्दर्भ

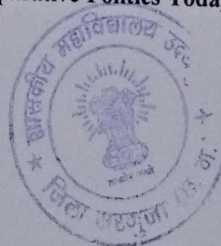
ग्रन्थ

सूची:-

क्र	प्रस्तक का नाम	लेखक का नाम
1.	तुलनात्मक राजनीति एवं राजनीतिक संस्थाएं	सी बी गेना
2.	तुलनात्मक राजनीति	जे.सी. जौहरी
3.	तुलनात्मक राजनीति	पी.डी. शर्मा
4.	तुलनात्मक राजनीति	एस.आर. महेष्चरी
5.	तुलनात्मक राजनीति संस्थाएं और प्रक्रियाएं	तपन बिस्वाल
6.	कम्परेटीव गर्वनेमेंट	एस.ई. फाईनर

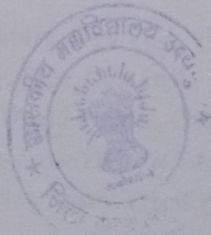
Reference :-

- Anup Chand Kapur, K.K. Mishra **Select Constitutions** (U.K., U.S.A., France, Canada, Switzerland, Japan, China, India), S. Chand & Company Ltd., New Delhi, 2001.
- B.C. Rai, **The World Constitution: A Comparative Study** (U.S.A., U.K., Soviet Union, Switzerland, Japan, France, Australia, Canada, India, Pakistan), Prakashan Kendra, Lucknow, 2001
- G. Almond et.al., **Comparative Politics Today : A World View**, 7th Edition, New York/London, Harper Collins, 2000
- R. Hague & M. Harrop, **Comparative Government and Politics: An Introduction**, 5th Edition, New York, Palgrave, 2001
- A Bobler and J. Seroka (eds.); **Contemporary Political System: Classification and Typologies**, Boulder Colorado, Lynne Rienner Publishers, 1990.
- Richa Sakma, **Russian Politics and Society**, London: Routledge, 1996.
- Anuradha Chenoy, **The Making of New Russia**, New Delhi, Har-Anand Publications, 2000
- Shashi Kant Jha & Bhaswati Sarkar (eds.) **Amidst Turbulence & Hope, Transition Russia and Eastern Europe**, New Delhi, 2002
- Thomas F. Remington, **The Russian Parliament: Institutional Evolution in a Transitional Regime**, 1989-1999, Yale University Press, 2002
- Gabrial A. Almond and G. Bingham Powell (eds.) **Comparative Politics Today: A World view**, Harper Collins Publishers, 2002



Paper I : International Politics and Foreign Policy of India

- इकाई 1 : अन्तर्राष्ट्रीय राजनीति : अर्थ, प्रकृति, क्षेत्र ।
- अन्तर्राष्ट्रीय राजनीति : अध्ययन उपागम — यथार्थवाद, आदर्शवाद, नवयथार्थवाद, विश्व व्यवस्था सिद्धान्त । राष्ट्रीय हित एवं राष्ट्रीय शक्ति : अर्थ, परिभाषा एवं तत्त्व ।
- Unit 1 : International Politics : meaning, Nature, Scope. International Politics : Approaches to the study : Realism, Idealism, New realism, World System theory. National interest and National power: Meaning Definition and Elements.
- इकाई 2 : अन्तर्राष्ट्रीय राजनीति के विभिन्न सिद्धान्त : व्यवस्था, खेल, निर्णय निर्माण, सौदेबाजी का सिद्धान्त । शक्ति संतुलन । सामूहिक सुरक्षा । निशस्त्रीकरण । शीतयुद्ध । राजनय ।
- Unit 2 : Various theories of International Politics : System, Game, Decision making, Bargaining theory. Balance of Power, Collective Security, Disarmament, Cold war, Diplomacy.
- इकाई 3 : भारत की विदेश नीति : निर्धारक तत्त्व, विशेषताएं । गुटनिरपेक्षता : अर्थ, विशेषताएं, प्रासंगिकता ।
- Unit 3 : Foreign Policy of India : Determinating elements, characteristics. Non-alignment : meaning, features , relevance.
- इकाई 4 : भारत का पड़ोसियों से सम्बंध — चीन, पाकिस्तान, नेपाल, श्रीलंका । भारत का महाशक्तियों से सम्बंध — संयुक्त राज्य अमेरिका, रूस, ब्रिटेन एवं फ्रांस
- Unit 4 : Indias' relations with neighboring countries : China , Pakistan, Nepal, Sri lanka, Relations with Super Powers - USA, Russia, Britain and France.
- इकाई 5 : अन्तर्राष्ट्रीय राजनीति के कुछ प्रमुख मुद्दे : पर्यावरणवाद । अन्तर्राष्ट्रीय आतंकवाद । वैश्वीकरण । मानव अधिकार । परमाणविक निशस्त्रीकरण ।
- Unit 5 : Some major issues of International Politics : Environmentalism, International Terrorism, Globalisation, Human Rights , Nuclear Disarmament.



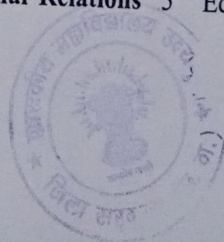
बी.ए.अंतिम वर्ष
प्रथम प्रश्न पत्र
अंतर्राष्ट्रीय राजनीति एवं भारत की विदेश नीति

सन्दर्भ ग्रन्थ सूची:-

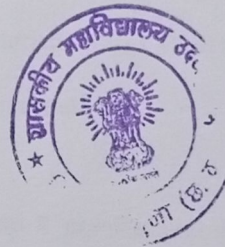
क्र	प्रस्तक का नाम	लेखक का नाम
1.	अन्तर्राष्ट्रीय राजनीति के सैद्धान्तिक पक्ष	महेन्द्र कुमार
2.	अन्तर्राष्ट्रीय राजनीति के सिद्धान्त एवं व्यवहार	यू.आर.घई
3.	अन्तर्राष्ट्रीय राजनीति सिद्धान्त समकालिन एवं मुद्दे	बी.एल. फाडिया
4.	अन्तर्राष्ट्रीय संबंध	पुष्पेश पन्थ
5.	अन्तर्राष्ट्रीय संबंध	दीनानाथ बर्मा
6.	थीयरी ऑफ इन्टरनेशनल पालिटिक्स	के.वाल्टज
7.	इन्टरनेशनल रिलेशन्स	जे.गोल्ड स्टीन
8.	द इन्टरनेशनल पालिटिक्स	पी.कलवरठ
9.	इन्टरनेशनल रिलेशन्स	सी.ब्राउन
10.	समकालीन विषय एवं भारत	अरुणोदय बाजपेयी

Reference :-

- M.S. Agwani, **Détente: Perspectives and Repercussions**, Vikas, 1975
- John Gray, **False Dawn: The Delusions of Global Capitalism**, Grant Book, U.K., 1998
- Hans J. Morgenthau, **Politics Among Nations: The Struggle for Power and Peace**, Scientific Book Agency, Calcutta, 1972
- Mahendra Kumar, **Theoretical Aspects of International Politics**, Agra: Shiva Lal Agarwala & Co. Educational Publishers
- K.J. Holsti, **International Politics: A Framework for Analysis**, Prentice Hall of India, New Delhi, 1995.
- Paul Kennedy, **Preparing for the Twenty-First Century**, New York, 1993
- Hutchings, Kimbley, **International Political Theory**, Sage, New Delhi
- John Baylis and Steve Smith, **The Globalization of World Politics**, Oxford University Press, 2008
- Karen Mingst, **Essentials of International Relations**, New York: W.W. Norton & Company, 2007
- Kate Kelly S. Pease, **International Organizations**, New Jersey: Prentice Hall, 2000
- Robert Jackson and Georg Sørensen, **Introduction to International Relations: Theories and Approaches**, Oxford University Press, 2003
- Joshua S. Goldstein & Jon C. Pevehouse, **'International Relations' 5th Edition**, Pearson Education, 2002



- J. W. Burton, 'International Relations: A General Theory', Cambridge University Press, New York, 1965.
- M.S. Agwani, **Détente: Perspectives and Repercussions**, New Delhi: Vikas, 1975
- John Gray, **False Dawn: The Delusions of Global Capitalism**, Grant Book, U.K., 1998
- Hans J. Morgenthau, **Politics Among Nations: The Struggle for Power and Peace**, Calcutta, Scientific Book Agency, Calcutta, 1972
- Mahendra Kumar, **Theoretical Aspects of International Politics**
- K.J. Holsti, **International Politics: A Framework for Analysis**, Prentice Hall of India, New Delhi, 1995.
- Paul Kennedy, **Preparing for the Twenty-First Century**, New York, 1993
- Hutchings, Kimbley, **International Political Theory**, Sage, New Delhi, 2002
- Karen Mingst, **Essentials of International Relations**, New York: W.W. Norton & Company, 2007
- Kate Kelly S. Pease, **International Organizations**, New Jersey: Prentice Hall, 2000
- Robert Jackson and Georg Sørensen, **Introduction to International Relations: Theories and Approaches**, Oxford University Press, 2003
- Joshua S. Goldstein & Jon C. Pevehouse, 'International Relations' 5th Edition, Pearson Education, 2002.
- J. W. Burton, 'International Relations: A General Theory', Cambridge University Press, New York, 1965.
- John Baylis & Steve Smith, 'Globalization of World Politics' OUP, U.S.A. & Delhi, 2008.



द्वितीय प्रश्नपत्र : लोक प्रशासन Paper : II : Public Administration

- इकाई 1 : लोक प्रशासन : अर्थ, परिभाषा, प्रकृति, क्षेत्र । लोक प्रशासन और निजी प्रशासन । अध्ययन पद्धतियां । नवीन लोक प्रशासन । तुलनात्मक लोक प्रशासन ।
- Unit 1 : Public Administration : meaning and definition, nature, scope. Public Administration and Private Administration. Method of Studies. New Public Administration. Comparative Public Administration.
- इकाई 2 : संगठन के सिद्धान्त : पदसोपान, नियंत्रण का क्षेत्र, आदेश की एकता, प्रत्यायोजन । मुख्य कार्यपालिका । सूत्र एवं स्टाफ अभिकरण । विभागीय संगठन, लोक निगम । कार्मिक प्रशासन : भर्ती, पदोन्नति, प्रशिक्षण ।
- Unit 2 : Principles of Organisation : Hierarchy, Span of Control, Unity of Command, Delegation. Chief Executive. Line and Staff Agencies. Departmental Organisation. Public Corporation. Personnel Administration : Recruitment, Promotion, Training.
- इकाई 3 : विकास प्रशासन : प्रकृति, मुद्दे और विशेषताएं । रिग्स मॉडल । प्रशासन में नागरिक सहभागिता । सुशासन और ई शासन । संघ लोक सेवा आयोग ।
- Unit 3 : Development Administration : Nature, Issues, Characteristics. Riggs Model. Public participation in Administration. Good Governance and e- Governance. Union Public Service Commission.
- इकाई 4 : वित्तीय प्रशासन : बजट के सिद्धान्त । भारत में बजट प्रक्रिया । भारत में प्रशासनिक सुधार । प्रशासन पर कार्यपालिका, विधायी, न्यायिक और जन नियन्त्रण ।
- Unit 4 : Financial Administration: Principles of Budget. Budget procedure in India. Administrative reforms in India. Executive, Legislative, Judicial and Public Control on Administration.
- इकाई 5 : प्रशासन में भ्रष्टाचार : आम्बुड्समैन, लोकपाल और लोक आयुक्त । वैश्वीकरण के युग में लोक प्रशासन । उदारीकरण । नौकरशाही । लोक सम्पर्क । Corruption in Administration: Ombudsman, Lokpal and Lok Ayukta. Public Administration in the age of Globalisation. Liberalisation. Bureaucracy. Public Relation.



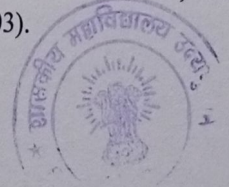
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द्वितीय प्रश्न पत्र
लोक प्रशासन

सन्दर्भ ग्रन्थ सूची:-

क्र	पुस्तक का नाम	लेखक का नाम
1.	लोक प्रशासन	अवस्थी और माहेष्वरी
2.	लोक प्रशासन सिद्धान्त एवं व्यवहार	सूषमा यादव और बलराम गौतम-(सम्पा)
3.	तुलनात्मक लोक प्रशासन	रमेश अरोड़ा
4.	लोक प्रशासन सिद्धान्त एवं व्यवहार	पी.डी. शर्मा और हरीषचन्द्र शर्मा
5.	वित्त प्रशासन	गौतम पदमनाम
6.	लोक प्रशासन के सिद्धान्त	सी.पी. भामरी
7.	लोक प्रशासन	बी.एल. फाडिया
8.	प्रशासनिक सिद्धान्त	अवस्थी और अवस्थी

Reference :-

- Avasthi & S.R. Maheshwari: **Public Administration**, (Agra: L. N. Agrawal, latest Hindi and English editions)
- R. R. Jha: **Lokayukta : The Indian Ombudsman**, Rishi Publications, Varanasi, 1991
- F.A. Nigro and G.I. Nigro, **Modern Public Administration**, New York, Harper Row, 1980
- M. P. Sharma, B. L. Sadana, '**Lok Prashasan : Siddhanth Evam Vyavahar**', (Allahabad: Kitab Mahal, Latest Hindi and English editions) .
- R. K. Arora & R. Goyal: **Indian Public Administration**, (New Delhi: Vishwa Prakashan, 2008).
- S. Kataria, '**Personnel Administration**', (RBSA Publishers, Jaipur, 2003).



बी.ए./बी.एस.सी. – प्रथम वर्ष
प्रश्न पत्र-प्रथम
भौतिक भूगोल

(कोड क्रमांक 0117)

अधिकतम अंक : 50

- इकाई -1. भौतिक भूगोल की प्रकृति एवं विषय क्षेत्र, पृथ्वी की उत्पत्ति, भूगर्भिक समय मापनी, पृथ्वी की आंतरिक संरचना, वेगनर का महाद्वीपीय प्रवाह सिद्धांत, पट्ट विवर्तन, भूसंतुलन ।
- इकाई -2. पृथ्वी की हलचल-भूकंप, ज्वालामुखी, चट्टान अपक्षय, अपरदन, सामान्य अपरदन चक्र, वायु, हिम बहता जल, भूमिगत जल और सागरीय जल से निर्मित भूदृश्य ।
- इकाई -3. मौसम और जलवायु के तत्व, वायुमंडल की संरचना एवं संघटन, वायुमंडलीय ताप, दाब तथा हवाएं ।
- इकाई -4. वायुमंडलीय आर्द्रता विक्षोभ, जलवायु वर्गीकरण कोपेन और थार्नथ्वेट के आधार पर वैश्विक जलवायु की विशेषताएँ और विश्व प्रतिरूप ।
- इकाई -5. महासागरीय उच्चावच प्रशांत महासागर, आंध्रमहासागर एवं हिन्द महासागर । सामुद्रिक तापमान लवणता जलधाराएँ एवं, ज्वारभाटा, सामुद्रिक निक्षेप एवं प्रवाल भित्ति, सामुद्रिक संसाधन ।

Books Recommended:

1. Barry, R. G. and Chorley, R. J. (1998): Atmosphere, Weather and Climate. Routledge, London.
2. Bryant, H. Richard (2001): Physical Geography Made Simple, Rupa and Company. New Delhi
3. Bunnett, R.B. (2003): Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Private Ltd.
4. Garrison, T. (1998): Oceanography, Wordsworth Company., Belmont.
5. Lake, P. (1979): Physical Geography (English and Hindi editions), Cambridge University Press, Cambridge.
6. Lal, D.S. 1993 : Climatology, 3rd edition, Chaitanya Pub. House, New Delhi
7. Leong Goh Cheng (2003): Certificate Physical and Human Geography, Oxford University Press, New Delhi.
8. Monkhouse, F.J. (1979): Physical Geography. Methuen, London
9. Singh, S. (2003): Physical Geography. (English and Hindi editions.). Prayag Pustak Bhawan, Allahabad;
10. Trewartha, G.T., Robinson, A.H., Hammond, E.H., and Horn, A.T. (1976/1990): Fundamentals of Physical Geography, 3rd edition. MacGraw-Hill, New York.
11. Singh, M.B. (2001): *Bhoutik Bhugol*, Tara Book Agency, Varanasi
12. Strahler, A.N. and Stahler, A.M. (1992): Modern Physical Geography. John Wiley and Sons, New York.



- इकाई —1. मानव भूगोल की परिभाषा एवं विषय क्षेत्र मानव वातावरण संबंध, निश्चयवाद, संभववाद प्रसम्भववाद, मानव विकास सूचकांक ।
- इकाई —2. मानव प्रजाति उद्भव प्रकार विशेषताएँ एवं वितरण, मानव द्वारा वातावरण से अनुकूलन एस्किमो, बुशमेन, पिग्मी, गोंड, मसाई, और नागा ।
- इकाई —3. वैश्विक जनसंख्या— वृद्धि, घनत्व, जनसंख्या के वितरण को प्रभावित करने वाले स्थानिक कारक, जनाधिक्य, न्यूनतम जनसंख्या और अनुकूलतम आदर्श जनसंख्या, जनसंख्या एवं प्रवास ।
- इकाई —4. अधिवास— नगरीय अधिवास: नगरीयकरण उद्भव, प्रकार एवं नगरीकरण के प्रतिरूप ।
ग्रामीण अधिवास : विशेषताएँ, प्रकार और क्षेत्रीय प्रतिरूप, भारत में ग्रामीण अधिवास, प्रकार, वर्गीकरण और क्षेत्रीय प्रतिरूप ।
- इकाई —5. उभरते पर्यावरणीय मुद्दे— ग्लोबल वार्मिंग, जलवायु परिवर्तन निर्वनिकरण, मरुस्थलीकरण प्रदूषण — जल, वायु और मृदा प्रदूषण ।

Books Recommended:

1. Chisholm, M. (1985): Human Geography, 2nd edition, Penguin Books, London.
2. De Blij, H.J. (1996): Human Geography: Culture, Society and Space, 2nd edition. John Wiley and Sons, New York,
3. Fellman, J. D., Arthur, G., Judith, G., Hopkins, J. and Dan, S. (2007): Human Geography: Landscapes of Human Activities. McGraw-Hill, New York. 10th edition.
4. Haggett, P. (2004): Geography: A Modern Synthesis. 8th edition, Harper and Row, New York.
5. Huggett, R. J. (1998): Fundamentals of Biogeography, Routledge, London.
6. Hussain, M. (1994): Human Geography, Rawat Publications, Jaipur.
7. Johnston, R. J., Gregory, D., Pratt, G. and Watts, M. (2009): The Dictionary of Human Geography. 5th edition, Basil Blackwell Publishers, Oxford.
8. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Publication, Meerut.
9. Norton, W. (2008): Human Geography, Oxford University Press, New York. 5th ed.
10. Saxena, H. M. (2000): Environmental Management. Rawat Publications., Jaipur and New Delhi.
11. Singh, K. N. and Singh, J. (2001): *Manav Bhugol*. Gyanodaya Prakashan, Gorakhpur. 2nd edition.
12. Singh, L.R. (2005): Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad
13. Smith, D. M. (1977): Human Geography- A Welfare Approach, Edward Arnold (Publishers) Ltd., London
14. Stoddard, R.H., Wishart, D.J. and Blouet, B.W. (1986): Human Geography. Prentice-Hall, Englewood Cliffs, New Jersey.



भाग- अ मानचित्र तकनीक एवं सांख्यिकी विधियां

(25)

इकाई -1 मपनी- कथनात्मक मापन, प्रतिनिधि भिन्न सामान्य रैखिक मापनी विकर्ण तुलनात्मक एवं समय मापनी.

इकाई -2 उच्चावच प्रदर्शन की विधियां - हैश्यूर समोच्च रेखा, तथा विविध स्थलाकृतियों की प्रदर्शन.

इकाई -3 रैखिक आरेख, दंड आरेख, (सामान्य एवं मिश्रित) चक्र आरेख - समानुपातिक वृत्त आरेख विभाजित वृत्तारेख

इकाई -4 सांख्यिकी विधियां : औसत, माध्यिका , बहुलक

भाग- ब सर्वेक्षण

(15)

इकाई -5 चैन और फीता सर्वेक्षण-त्रिभुजीकरण, खुला एवं बंद मार्ग मापन, प्रायोगिक पुस्तिका और मौखिक परिक्षण परीक्षा

(10)

Books Recommended:

1. Davis, R.E. and Foote, F.S. (1953): Surveying, 4th edition, McGraw Hill Publication, New York
2. Jones, P.A. (1968): Fieldwork in Geography, Longmans, Green and Company Ltd., First Publication, London
3. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London
4. Natrajan, V. (1976): Advanced Surveying, B.I. Publications., Mumbai
5. Pugh, J.C. (1975): Surveying for Field Scientists, Methuen and Company Ltd., London, First Publication.
6. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5th edition.
7. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.
8. Sharma, J. P. (2001): *Prayogik Bhugol*, Rastogi Publication, Meerut 3rd. edition.
9. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi.
10. Singh, L.R. (2006): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.
11. Venkatramaiah, C. (1997): A Text Book of Surveying, Universities Press, Hyderabad.



बी.ए./बी.एस.सी. -द्वितीय वर्ष
प्रश्न पत्र-प्रथम
आर्थिक एवं संसाधन भूगोल

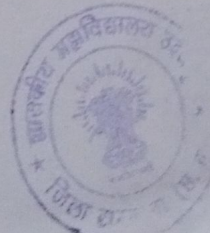
(कोड क्रमांक 0187)

अधिकतम अंक: 50

- इकाई-1 : आर्थिक भूगोल का अर्थ, विषय क्षेत्र एवं उपागम; आर्थिक भूगोल की आधारभूत संकल्पनाएँ; संसाधन : संकल्पनाएँ एवं वर्गीकरण; प्राकृतिक संसाधन : मिट्टी, वन एवं जल ।
- इकाई-2 : खनिज संसाधन : लौह अयस्क एवं बाक्साईट; शक्ति संसाधन कोयला, पेट्रोलियम एवं जल विद्युत; संसाधन संरक्षण ; प्रमुख फसलें: गेहूँ, चावल, गन्ना, एवं चाय ।
- इकाई-3 : विश्व के कृषि प्रदेश (व्हिटलसी के अनुसार); कृषि अवस्थिति के सिद्धान्त (वॉन थ्यूनेन); औद्योगिक स्थानीयकरण का सिद्धान्त (वेबर); प्रमुख उद्योग : लौह एवं इस्पात, वस्त्र उद्योग, शैलरासायनिक एवं शक्कर; विश्व के औद्योगिक प्रदेश ।
- इकाई-4 : विश्व परिवहन : प्रमुख ट्रांस महाद्वीपीय रेलवे, समुद्र एवं वायु मार्ग; अंतर्राष्ट्रीय व्यापार प्रतिरूप एवं प्रवृत्तियाँ; प्रमुख व्यापार संघ : लैटिन अमेरिकी स्वतंत्र व्यापार संघ (LAFTA), यूरोपीय साझा बाजार (EEC), दक्षिणी-पूर्वी एशियाई राष्ट्रों का संघ (ASEAN), विकासशील देशों पर भूमण्डलीकरण का प्रभाव ।
- इकाई-5 : संसाधनों का संरक्षण; संकल्पनाओं का उद्भव, सिद्धान्त, दर्शन एवं संरक्षण के उपागम, संसाधन संरक्षण एवं प्रवृत्तियाँ, अक्षय विकास एवं नीति निर्माण ।

Books Recommended:

1. Alexander, J. W. (1988): Economic Geography. Prentice-Hall, New Delhi,.
2. Bryson, J., Henry, N., Keeble, D. and Martin, R. (eds.) (1999): The Economic Geography Reader: Producing and Consuming Global Capitalism. John Wiley and Sons, Inc, New York.
3. Clark, G. L., Gertler, M. S. and Feldman, M. P. (eds.) (2000): The Oxford Handbook of Economic Geography. Oxford University Press, USA.
4. Coe, N. (2007): Economic Geography: A Contemporary Introduction. Blackwell Publishers, Inc., Massachusetts.
5. Gautam, A. (2006): *Aarthik Bhugol Ke Mool Tattava*, Sharda Pustak Bhawan, Allahabad.
6. Guha, J. S. and Chatteraj, P.R. (2002): A New Approach to Economic Geography: A Study of Resources. The World Press Private Limited, Kolkata.
7. Hanink, D. M. (1997): Principles and Applications of Economic Geography: Economy, Policy, Environment. John Wiley and Sons, Inc, New York.
8. Hartshorne, T. A. and Alexander, J. W. (1988): Economic Geography (3rd revised edition) Englewood Cliff, New Jersey, Prentice Hall
9. Hudson, R. (2005): Economic Geographies: Circuits, Flows and Spaces. Sage Publications, London.
10. Knowles, R, Wareing, J. (2000): Economic and Social Geography Made Simple, Rupa and Company, New Delhi.



बी.ए./बी.एस.सी. द्वितीय वर्ष
प्रश्न पत्र— द्वितीय
भारत का भूगोल

(कोड क्रमांक 0188)

अधिकतम अंक: 50

इकाई -1 भौगोलिक स्वरूप - संरचना, उच्चावच जलवायु, भू-आकृतिक प्रदेश, अपवाह, जलवायु-मानसून की उत्पत्ति एवं विकास प्रक्रिया तथा पादेशिक एवं मौसमी विविधता।

इकाई -2 प्राकृतिक संसाधन - मिट्टियाँ, प्रकार, वितरण एवं विशेषताएँ, जल संसाधन, सिंचाई और बहुउद्देशीय परियोजनाएँ, वन-प्रकार, वितरण आर्थिक महत्व एवं संरक्षण। खनिज एवं शक्ति के संसाधन - लौह अयस्क, मैंगनीज, तांबा, कोयला, पेट्रोलियम और प्राकृतिक गैस, गैर पारंपरिक उर्जा, (सौर उर्जा, पवन उर्जा ज्वारीय उर्जा, भूतापीय उर्जा)।

इकाई -3 सांस्कृतिक तत्व, जनसंख्या वृद्धि, घनत्व और वितरण, कृषि प्रमुख खाद्य फसलें, हरित क्रांति का प्रभाव, कृषि प्रदेश,।

इकाई -4 उद्योग-स्थानीकरण, औद्योगिक विकास और उत्पादन - लौहा और इस्पात उद्योग, सूती वस्त्र उद्योग, सीमेंट, चीनी, यातायात और व्यापार, औद्योगिक प्रदेश।

इकाई -5 भारत के निम्न प्रदेशों का विस्तृत अध्ययन कश्मीर घाटी, उत्तर पूर्वी प्रदेश, छोटा नागपुर का पठार, थार मरुस्थल भारत के द्वीप समूह।

Books Recommended:

1. Chauhan, P.R. and Prasad, M. (2003): *Bharat Ka Vrihad Bhugol*, Vasundhara Prakashan, Gorakhpur.
2. Farmer, B.H. (1983): *An Introduction to South Asia*. Methuen, London
3. Gautam, A. (2006): *Advanced Geography of India*, Sharda Pustak Bhawan, Allahabad
4. Johnson, B.L.C. (1963): *Development in South Asia*. Penguin Books, Harmondsworth
5. Krishnan, M.S. (1982): *Geology of India and Burma*, CAS Publishers and Distributors, Delhi.
6. Khullar, D.R. (2007): *India: A Comprehensive Geography*, Kalyani Publishers, New Delhi
7. Nag, P. and Gupta, S. S. (1992): *Geography of India*, Concept Publishing Company, New Delhi.
8. Rao, B.P. (2007): *Bharat ke Bhugolik Sameeksha*, Vasundhara Prakashan, Gorakhpur.
9. Sharma, T.C. and Coutinho, O. (2003): *Economic and Commercial Geography of India*, Vikas Publishing House Private Ltd. New Delhi.
10. Singh, J. (2003): *India: A Comprehensive Systematic Geography*. Gyanodaya Prakashan, Gorakhpur
11. Singh, J. (2001): *Bharat: Bhugolik Aadhar Avam Ayam*, Gyanodaya Prakashan, Gorakhpur.
12. Singh, R.L. (ed.) (1971): *India: A Regional Geography*. National Geographical Society of India, Varanasi.
13. Spate, O.H. K., Learmonth A. T. A. and Farmer, B. H. (1996): *India, Pakistan and Sri Lanka*. Methuen, London, 7th edition.
14. Sukhwai, B.L. (1987): *India: Economic Resource Base and Contemporary Political Patterns*. Sterling Publication, New Delhi
15. Tiwari, R.C. (2007): *Geography of India*, Prayag Pustak Bhawan, Allahabad.
16. Wadia, D. N. (1959): *Geology of India*. Mac-Millan and Company, London and student edition, Madras.



बी.ए./बी.एस.सी. द्वितीय वर्ष
प्रश्न पत्र-तृतीय
प्रायोगिक भूगोल

अधिकतम अंक : 50

खण्ड-अ. मानचित्र की व्याख्या, प्रक्षेप और सांख्यिकीय विधियां ।

(25 अंक)

इकाई -1 मानचित्र - बिन्दु विधि, छाया विधि, सममान रेखा मानचित्र (मानचित्र निर्माण)

इकाई -2 प्रक्षेप - परिभाषा एवं प्रकार शंकवाकार, खमध्य बेलनाकार प्रक्षेप.

इकाई -3 मौसम मानचित्र की व्याख्या एवं मौसम संबंधी उपकरणों का उपयोग.

इकाई -4 सांख्यिकीय विधियां - विचलन- चतुर्थांश माध्य विचलन, मानक विचलन, चतुर्थक विचलन, सापेक्षिक परिवर्तनशीलता, प्रसरण गुणंक ।

खण्ड-ब. सर्वेक्षण

(15 अंक)

इकाई -5 प्रिज्मीय सर्वेक्षण- पूर्णवृत्त दिक्मान, समानीत दिक्मान एवं प्रिज्मीय कम्पास सर्वेक्षण की विधियाँ ।

प्रायोगिक पुस्तिका और मौखिक परीक्षा

(10 अंक)

Books Recommended:

1. Alvi, Z. 1995 : Statistical Geography: Methods and Applications, Rawat Pub. New Delhi: .
2. Davis, R.E. and Foote, F.S. (1953): Surveying, 4th edition, McGraw Hill Publication, New York
3. Kanetker, T.P. and Kulkarni, S.V.(1967): Surveying and Levelling, Vol I and II V.G. Prakashan, Poona.
4. Natrajan, V. (1976): Advanced Surveying, B.I. Publications., Mumbai.
5. Pal, S.K. 1999 : Statistics for Geoscientists, Concept publishing Company, New Delhi
6. Punmia, B.C.(1994): Surveying, Vol I, Laxmi Publications Private Ltd, New Delhi.
7. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5th edition
8. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.
9. Sharma, J. P. (2001): *Prayogik Bhugol.*, Rastogi Publication, Meerut 3rd edition.
10. Silk, J. 1979 : Statistical techniques in Geography, George Allen and Unwin, London
11. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi.,
12. Singh, L.R. (2006): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.
13. Venkatramaiah, C. (1997): A Text Book of Surveying, Universities Press, Hyderabad.



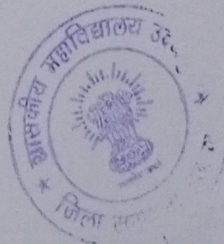
बी.ए./बी.एस.सी. तृतीय वर्ष
प्रश्न पत्र—प्रथम
सुदूर संवेदन एवं भौगोलिक सूचना प्रणाली
(पेपर कोड – 0248)

अधिकतम अंक: 50

- इकाई -1 :** सुदूर संवेदन का अर्थ तथा आधारभूत संकल्पना : परिभाषा, इतिहास, एवं विषय क्षेत्र; विद्युत चुम्बकीय विकिरण : विशेषताएँ, वर्णक्रमीय (SPECTRAL) प्रदेश एवं बैंड; पृथ्वी के धरातल एवं वायुमण्डल के साथ विकिरण अर्जा की अन्योन्यक्रिया, वर्णक्रमीय (SPECTRAL)लक्षण ।
- इकाई -2 :** सुदूर संवेदन के प्रकार : वायु जनित एवं अंतरिक्ष जनित; हवाई छायाचित्र : प्रकार एवं विशेषताएँ; सुदूर संवेदन उपग्रह : प्लेटफार्म एवं संवेदक : सक्रिय एवं निष्क्रिय, संवेदक की विशेषताएँ : स्थानिक विभेदन, वर्णक्रमीय (SPECTRAL) विभेदन, रेडियोमेट्रिक विभेदन, अल्पकालिक विभेदन, उत्पाद ।
- इकाई -3 :** चाक्षुष एवं अंकीय बिम्ब प्रक्रियान्वयण तकनीक; संसाधन मानचित्रण एवं पर्यावरण नियंत्रण में सुदूर संवेदन अनुप्रयोग, भारत में सुदूर संवेदन; उद्भव एवं विकास ।
- इकाई -4 :** भौगोलिक सूचना प्रणाली का परिचय : भूसूचना की परिभाषा, भूसूचना का महत्व एवं विषय क्षेत्र, भौगोलिक सूचना प्रणाली का इतिहास, जी0 आई0 एस0 की संकल्पना, जी0 आई0 एस0 के कार्य – आंकड़ा प्रवेश, संचालन, परिचालन, प्रबंधन, त्रुटि संसूचन, विश्लेषण एवं प्रदर्शन, धरातलपत्रक, सर्वेक्षण, हवाई बिम्ब, उपग्रह आंकड़े एवं बिम्ब, आकड़ों के प्रकार धरातलीय एवं अधरातलीय या लाक्षाणिक ।
- इकाई-5 :** आंकड़ा मॉडल एवं आंकड़ा विश्लेषण : रॉस्टर आंकड़ा एवं उसकी विशेषताएँ, वेक्टर आंकड़ा एवं उसकी विशेषताएँ, रास्टर आंकड़ा विश्लेषण : ग्रीड सेल अथवा पिक्सल, वेक्टर आंकड़ा विश्लेषण धरातलीय आंकड़ा, वेक्टर प्रारूप की रचना धरातलीय एवं अधरातलीय आंकड़ा प्रबंधन, धरातलीय सूचना तकनीक ।

Books Recommended:

1. Bhatta, B. (2010): Remote Sensing and GIS, Oxford University Press, New Delhi.
2. Campbell, J.B. (2002): Introduction to Remote Sensing. 5th edition, Taylor and Francis, London
3. Curran, P.J. (1985): Principles of Remote Sensing, Longman, London
4. Kang-tsung Chang (2003) Geographic Information Systems, Tata McGraw Hill, New Delhi
5. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. 4th edition. John Wiley and Sons, New York
6. Lo Albert, C.P., and Young, K.W (2003) Concepts and Techniques of Geographical Information Systems, Prentice Hall of India Pvt. Ltd., New Delhi.
7. Nag Prithvish and Kudrat M. (1998): Digital Remote Sensing, Concept Publishing Company, New Delhi
8. Star J, and J. Estes, (1994), Geographic Information Systems: An Introduction, Prentice Hall, New Jersey.
9. Williams J. (1995): Geographic information from space, John Wiley and Sons, England,
10. चौनियाल, देवी दत्त (2004), सुदूर संवेदन एवं भौगोलिक सूचना प्रणाली, शारदा पुस्तक भवन, इलाहाबाद-2.



बी.ए./बी.एस.सी. तृतीय वर्ष
प्रश्न पत्र-द्वितीय
छत्तीसगढ़ का भूगोल
(पेपर कोड - 0249)

अधिकतम अंक : 50

- इकाई -1. भौतिक स्वरूप भौमिकीय संरचना उच्चावच, भूआकृतिक प्रदेश, अपवाह, जलवायु ।
- इकाई -2. प्राकृतिक संसाधन-मिट्टी, प्रकार, विशेषताएँ, वितरण, जलसंसाधन: प्रमुख सिंचाई और बहुउद्देशीय परियोजनाएँ, वन : प्रकार, वितरण, वनों का संरक्षण, खनिज संसाधन - लौह अयस्क, कोयला डोलोमाइट, चुना पत्थर और बाक्साइट छत्तीसगढ़ में शक्ति के संसाधन।
- इकाई -3. कृषि- प्रमुख खाद्यान्न फसलें, दलहन एवं अन्य फसलें, जनसंख्या- वृद्धि, वितरण और घनत्व, जनजातिय जनसंख्या । ग्रामीण और नगरीय जनसंख्या ।
- इकाई -4. उद्योग, लौह इस्पात उद्योग, सिमेंट चीनी, एल्युमिनियम, छत्तीसगढ़ के औद्योगिक प्रदेश ।
- इकाई -5. व्यापार, परिवहन, पर्यटन, छत्तीसगढ़ का सामाजिक आर्थिक विकास ।

Books Recommended:

1. Jha, Vibhash Kumar and Saumya Naiyyar (2013) Chhattisgarh Samagra, Chhattisgarh Rajya Hindi Granth Akadmi, Raipur
2. Kumar, Pramila (2003): Chhattisgarh Ek Bhugolik Addhyayan. Madhya Pradesh Hindi Granth Akadmi, Bhopal
3. Nagesh Jitendra and at all (2014): Chhattisgarh Sandarbh 2014 Jansanmpark Vibhag, C.G. Govt., Raipur
4. Tiwari, Vijay Kumar (): Geography of Chhattisgarh, Himalya Publishing House, Pvt. Ltd
5. Tripathi, Kaushlendra and Pursottam Chandrakar (2001): Geography of Chhattisgarh, Shardaparakashan, Aazad Nagar , Bilaspur.
6. Verma ,L.N. (2017): Geography of Chhattisgarh, Madhya Pradesh Hindi Granth Akadmi, Bhopal



बी.ए./बी.एस.सी. तृतीय वर्ष
प्रश्न पत्र-तृतीय
प्रायोगिक भूगोल

अधिकतम अंक : 50

खण्ड (अ)

मानचित्र पठन एवं निर्वचन

20

इकाई -1. बैन्ड ग्राफ, हीदर ग्राफ, क्लाइमोग्राफ, पवनारेख ।

इकाई -2. भारतीय स्थलाकृतिक मानचित्र की व्याख्या प्रकार, वर्गीकरण धरतलीय मानचित्र के प्रकार एवं विप्लेषण, राष्ट्रीय एवं अन्तराष्ट्रीय, भौतिक एवं सांस्कृतिक तत्वों के आधार पर विप्लेषण ।

इकाई -3. उपग्रह बिम्ब : प्रारम्भिक सूचनाओं की व्याख्या बिम्ब निर्वचन : चाक्षुश विधि - भूमि उपयोग भूमि आच्छादन मानचित्रण, जी0 पी0 एस0 का उपयोग एवं अनुप्रयोग ।

खण्ड (ब)

सर्वेक्षण एवं क्षेत्रीय प्रतिवेदन

20

इकाई -4. सर्वेक्षण , समपटल सर्वेक्षण, प्रतिच्छेदन एवं स्थिति निर्धारण ।

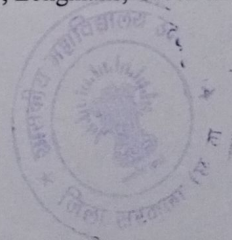
इकाई -5. भूगोल में क्षेत्रीय कार्य का महत्व किसी छोटे क्षेत्र का भौतिक सामाजिक आर्थिक सर्वेक्षण और रिपोर्ट तैयार करना ।

प्रायोगिक पुस्तिका और मौखिक परिक्षण परीक्षा

10

Books Recommended:

1. Archer, J.E. and Dalton, T.H. (1968): *Field Work in Geography*. William Clowes and Sons Ltd. London and Beccles.
2. Bolton, T. and Newbury, P.A. (1968): *Geography through Fieldwork*. Blandford Press, London.
3. Campell, J. B. (2003): *Introduction to Remote Sensing*. 4th edition. Taylor and Francis, London.
4. Chaunial, D. D. (2004): *Remote Sensing and Geographical Information System*(in Hindi), Sharda Pustak Bhawan, Allahabad
5. Cracknell, A. and Ladson, H. (1990): *Remote Sensing Year Book*. Taylor and Francis, London.
6. Curran, P.J. (1985): *Principles of Remote Sensing*. Longman, London.
7. Davis, R.E. and Foote, F.S. (1953): *Surveying*, 4th edition, McGraw Hill Publication, New York
8. ' ,
9. Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): *Remote Sensing*. Indian Academy of Science, Bangalore.
10. Floyd, F. and Sabins, Jr. (1986): *Remote Sensing: Principles and Interpretation*. W.H. Freeman, New York.
11. Gautam, N.C. and Raghavswamy, V. (2004). *Land Use/ Land Cover and Management Practices in India*. B.S. Publication., Hyderabad.
12. Jensen, J.R. (2004): *Remote Sensing of the Environment: An Earth Resource Perspective*. Prentice-Hall, Englewood Cliffs, New Jersey. Indian reprint available.
13. Jones, P.A.(1968): *Fieldwork in Geography*, Longmans, Green and Company Ltd., First Publication, London



REVISED SYLLBUS

B. A. Part- I (Economics)

Subject : Micro Economics, Paper-I (Code: 0111)

UNIT 1

Introduction - Definitions Nature and scope of Economics, Methodology in Economics, Utility - Cardinal and Ordinal approaches, Indifference curve, Consumer's equilibrium, Giffin goods, Demand - Law of Demand, Elasticity of demand Consumer's surplus

UNIT 2

Theory of production and cost, Production decision, Production function, Iso-quant, Factor substitution, Law of variable proportions, Returns to scale, Economies of scale, Different concepts of cost and their interrelation, Equilibrium of the firm.

UNIT 3

Market structure-perfect and imperfect markets, Equilibrium of a firm-Perfect competition, Monopoly and price discrimination, Monopolistic competition, Duopoly, Oligopoly, controlled and administered prices

UNIT 4

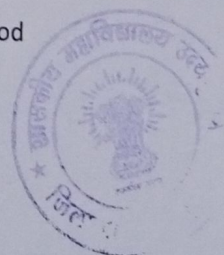
Factor pricing-Marginal productivity theory of distribution, Euler's theorem, Theories of wage determination, wages and collective bargaining, wage differentials, Rent - Scarcity Rent, differential rent, Quasi rent, Modern Rent Theory, Interest Classical and Keynesian Theories, Modern Theory, Profits - Innovation, Risk bearing and uncertainty theories

UNIT 5

Welfare economics: , What welfare economics is about ?, Role of value judgments in welfare economics, Pigou's contribution in the field of welfare economics, Concept and condition of Pareto optimality, New welfare economics: Kaldor-Hicks welfare criterion, Scitovsky paradox, Social welfare function and social choice: Bergson-Samuelson social welfare function, Prof. Amartya Sen's critique, Arrow impossibility theorem

References:

1. Bach, G. L. (1977) "Economics, " Prentice Hall of India, New Delhi.
2. Gauld, J.P. and Edward P. L. (1996), "Microeconomic Theory," Richard Irwin, Homewood



3. Henderson J. and R. E. Quandt (1980), "Microeconomic Theory : A Mathematical Approach", McGraw Hill, New Delhi.
4. Heathfield and Wibe (1987), " An Introduction to Cost and Production Functions", Macmillan. London.
5. Koutsoyiannis, A. (1990), " Modern Microeconomics" , Macmillan.
6. Lipsey, R. G. and K. A. Chrystal (1999) "Principles of Economics ", (9th Edition), Oxford University Press, Oxford. B.A.-Part-I (21) P



REVISED SYLLBUS

B. A. Part- I (Economics)

Subject : Indian Economy , Paper-II (Code: 0112)

UNIT 1

Pre and post independent Indian economy: A short introduction of economic policies of British India, State of economy at the time of independence, Planning exercise in India-Planning in India through different five Year Plans, The planning commission and NITI Aayog, Growth and development in pre-reform period, New Economic Reforms: Liberalization, Privatization and Globalization, Growth, development and structural change in post-reform period.

UNIT 2

Population and human development: Demographic trends and issues of education, health, malnutrition and migration. Growth and distribution: Trends and policies in poverty, inequality, unemployment and occupational distribution, International comparison in human development and poverty reduction

UNIT 3

Agriculture: Nature and importance, Trends in agriculture production and productivity, factors determining productivity, Land reforms, new agriculture strategies and green revolution, rural credit, Agricultural marketing, natural resources and infra-structure development: Performance, problems and policies, MUDRA yojana.

UNIT 4

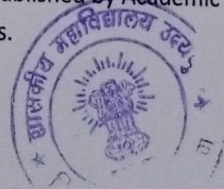
Industry: Growth and productivity, Industrial policy and reforms, Growth and problems of small and cottage scale industries, Role of public sector enterprises in India's industrialization. Trends and performance in services.

UNIT 5

External Sector - Role of foreign trade, Trends in exports and imports, Composition and direction of India's foreign trade, Export promotion measures and the new trade policies, Recent macroeconomic scenario: National Income, investment, saving and inflation, Current macroeconomic policies and their impact, fiscal policies and monetary policy.

References

1. Uma Kapila, "Indian Economy : Performance and Policies," published by Academic Foundation.
2. Dutta and Sundram, "Indian Economy", S. Chand Publications.



REVISED SYLLBUS

B.A. Part- II (Economics)

Subject : Macro Economics, Paper-I (Code: 0181)

UNIT 1

National Income: Concept and measurement of national income, Economic welfare and national income, Social accounting. Circular flow of income, National income accounting, Green accounting Classical theory of employment, Say's law of market Keynesian theory of employment.

UNIT 2

Consumption Function - Average and marginal propensity to consume, Keynes's psychological law of consumption. Determinants of the consumption function. The saving function. The investments multiplier and its effectiveness, The investment Function - marginal efficiency of capital, Autonomous and induced investment. Saving and investment equality.

UNIT 3

Nature and Characteristics of trade cycle, Theories of trade cycle: Hawtrey's monetary theory, Hayek's over investment theory, Keynes's view on trade cycles, Schumpeter's theory of innovation, Samuelson and Hicks multiplier accelerator model, Control of trade cycle.

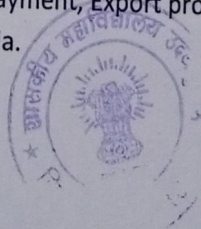
UNIT 4

International Trade - Inter-regional and international trade, Comparative advantage cost theory, Opportunity cost theory and Heckscher Ohlin theory, International trade and economic development, Tariffs & import quotas, Concept of optimum tariff. Balance of trade & balance of payment., Concept & components of BOP, Equilibrium & disequilibrium in BOP, Relative merits & demerits of devaluation, Foreign trade multiplier.

UNIT 5

Functions and objectives of international monetary fund, World Bank and World Trade Organization, International monetary reforms and India, Foreign trade in India recent change in the composition and direction of foreign trade, India's balance of payment, Export promotion and import substitution in India. Multinational Corporation and India.

BASIC READING LIST -



- Ackley, G. (1976) – "Macro Economics; Theory and Policy," Mcmillan Publishing Company, Newyork.
- Day, A.C.L. (1960) – "Outline of Monetary Economics," Oxford University Press Oxford.
- Gupta, S.B. (1994)- "Monetary Economics," S. Chand and Co., Delhi
- Heijdra, B.J. and F.V. Ploeg (2001) – "Foundations of Modern Macro-economics," Oxford University Press, Oxford.
- Lewis, M.K. and P.D. Mizan (2000) –" Monetary Economics, " Oxford University Press, New Delhi.
- Shapiro, E. (1996) – "Macroeconomic Analysis," Galgotia Publications, New Delhi .

READING LIST - - Ackley, G. (1976)," Macroeconomics : Theory and Policy", Macmillan Publishing Company, New York. -

- Day, A.C.L. (1960) –" Outline of Monetary Economics," Oxford University Press Oxford.
- Gupta, S.B. (1994)- "Monetary Economics," S. Chand and Co., Delhi
- Heijdra, B.J. and F.V. Ploeg (2001) –" Foundations of Modern Macro-economics, " Oxford University Press, Oxford.
- Lewis, M.K. and P.D. Mizan (2000) - Monetary Economics, Oxford University Press, New Delhi.
- Shapiro, E. (1996) – "Macroeconomic Analysis," Galgotia Publications, New Delhi.
- Dillard, D. (1960)- "The Economics of John Mayanand Keynes, "Crossby Lockwood and Sons, London.
- Hanson, A.H. (1953), "A Guide to Keynes, " McGraw Hill, New York.
- Higgins, B. (1963), "Economic Development; Principles, Problems and Policies, " Central Book Depot, Allahbad.
- Keynes, J.M. (1936), "The General Theory of Employment, Interest and Money," Macmillan, London.
- Kindleberger, C.P. (1958), "Economic Development," McGraw Hill Book company, New York.
- Powelson, J.P.C. (1960), " National Income and Flow of Funds Analysis," McGraw Hill, New York.

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REVISED SYLLBUS

B.A. Part- II (Economics)

Subject : Money, Banking and Public Finance, Paper-II (Code: 0182)

UNIT 1

Basic concepts : Money - meaning and functions, Gresham's law; Quantity theory of money- Cash transaction and cash balance approaches; Value of Money, Inflation, deflation and reflation, types, causes and effects on different sectors of the economy; Demand pull and cost push inflation; Measures to control inflation. Phillips curve, Concept of demonetization.

UNIT 2

Commercial banking- meaning and types; Functions of commercial banks, The process of credit creation, purpose and limitations; Liabilities and assets of banks; Evolution of commercial banking in India after independence; A critical appraisal of the progress of commercial banking after Nationalization, Functions of a central bank; Quantitative and qualitative methods of credit control; Bank rate policy; Open market operations; Variable reserve ratio and selective methods. Role and functions of the Reserve bank of India; Objectives and limitations of monetary policy with special reference to India.

UNIT 3

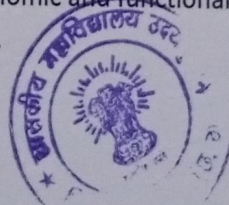
Meaning and scope of public finance; Distinction between private and public finance; public goods v/s private goods; The Principle of maximum social advantage; Role of the government in economic activities ; Public expenditure - Meaning, classification and principles of public expenditure; Trends in public expenditure and causes of growth of public expenditure in India.

UNIT 4

Sources of Public revenue; taxation - Meaning, Canons and classification of taxes; Division of tax burden. The benefit and ability to pay approaches; Impact and incidence of taxes; Taxable capacity; Effects of taxation; Characteristics of a good tax system; Equity and Justice in Taxation, Major trends in tax revenue of the Central and State Government in India.

UNIT 5

Public debt and financial administration: Sources of public borrowing, Effects of public debt. Methods of debt redemption. The public budget- Kinds of budget, Economic and functional classification of the budget; Preparation and passing of budget in India.



REVISED SYLLBUS

B. A. Part- III (Economics)

Subject : Development and Environmental Economics, Paper-I (Paper Code:0242)

UNIT 1

Economic Growth and Development : Factor affecting economic growth (Labour, capital and technology), Developed and under developed Economy, Poverty-absolute & relative, Marxian model of Economic Growth, Mahalanobis Model of Economic Growth. Balanced and unbalanced growth.

UNIT 2

Problems of Population and growth pattern of population. Theory of demographic transition. Population, poverty and environment. Schumpeter's theory of economic growth, Theory of Big-Push, Nelson's theory of low-level income equilibrium trap , Theory of Critical minimum efforts ,

UNIT 3

Harrod and Domar growth model, Solow's model of economic growth, Meades Neo classical models, , Mrs. Joan Robinson's growth model , A. Lewis theory of unlimited supply of labour.

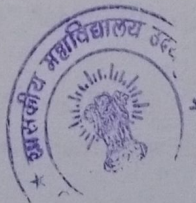
UNIT 4

Environment: Environmental and use, environmental disruption as an allocation, problem. valuation of environmental damages- land, water , air & forest , prevention control and abatement of pollution, choice of policy instruments in developing countries, environmental legislation, indicators of sustainable development, environmental accounting

UNIT 5

Concept of Intellectual Capital : Food Security, Education, Health & Nutrition, Role of agriculture in economic development, Land reforms, Efficiency & Productivity in Agriculture, new technology & Sustainable agriculture, Globalization & agriculture growth, the choice of technique appropriate technology & employment.

Reference :-



REVISED SYLLBUS

B.A. Part- III (Economics)

Subject : Statistical Methods, Paper-II, (Paper Code: 0243)

UNIT 1 :-

Statistics : Definition of Statistics, Importance and Limitations of Statistics, Importance of Statistics in Economics, Statistical investigation, Census and sampling methods of statistical investigation, Statistical data, Collections of Data, Primary & Secondary Data.

UNIT 2

Measuring of Central Tendency: Mean, Median, Mode, measures of Skewness, Probability-basic concepts meaning and definitions

UNIT 3

Dispersion : Meaning of Dispersion, Methods of measuring Dispersion, Range, Quartiles Deviation ,Mean Deviation, Coefficient of Mean Deviation, Standard Deviation.

UNIT 4

Correlation Analysis : Meaning and types of correlation ,Degree of correlation, Coefficient of correlation-Karl Pearson's Method, Spearman's Rank Difference Method. Probable error and standard error.

UNIT 5

Index Number- Methods of constructing of Index Numbers, Fisher's methods, Drobish-Bowles method, Paasches method, Laspeyres method, Consumer price index numbers, Reversal test, Circular Test, Time series analysis-Meaning, Components of time series, Measurement of long term trend by average method.

Reference :-

1. Shukla, S.M. and S.P. Sahay – "Quantitative Methods" Sahitya Bhawan Publication, Agra.
2. Agrawal, D.R., "Quantitative Methods", Vrinda Publications (P) Ltd.
3. Sancheti, D.C., "Quantitative Methods", Sultanchand and Sons, New Delhi.



NEW CURRICULUM OF B.Sc. PART I

CHEMISTRY

The new curriculum will comprise of Three theory papers of 33, 33 and 34 marks each and practical work of 50 marks. The curriculum is to be completed in 180 working days as per the UGC norms & conforming to the directives of the Govt. of Chhattisgarh. The theory papers are of 60 hrs each duration and the practical work of 180 hrs duration.

PAPER I

INORGANIC CHEMISTRY

M.M.33

UNIT-I

A. ATOMIC STRUCTURE

Bohr's theory, its limitation and atomic spectrum of hydrogen atom. General idea of de-Broglie matter-waves, Heisenberg uncertainty principle, Schrödinger wave equation, significance of Ψ and Ψ^2 , radial & angular wave functions and probability distribution curves, quantum numbers, Atomic orbital and shapes of s, p, d orbitals, Aufbau and Pauli exclusion principles, Hund's Multiplicity rule, electronic configuration of the elements.

B. PERIODIC PROPERTIES

Detailed discussion of the following periodic properties of the elements, with reference to s and p-block. Trends in periodic table and applications in predicting and explaining the chemical behavior.

- Atomic and ionic radii,
- Ionization enthalpy,
- Electron gain enthalpy,
- Electronegativity, Pauling's, Mulliken's, Allred Rochow's scales.
- Effective nuclear charge, shielding or screening effect, Slater rules, variation of effective nuclear charge in periodic table.

UNIT-II

CHEMICAL BONDING I

Ionic bond: Ionic Solids - Ionic structures, radius ratio & co-ordination number, limitation of radius ratio rule, lattice defects, semiconductors, lattice energy Born- Haber cycle, Solvation



energy and solubility of ionic solids, polarising power & polarisability of ions, Fajans rule, Ionic character in covalent compounds: Bond moment and dipole moment, Percentage ionic character from dipole moment and electronegativity difference, Metallic bond-free electron, Valence bond & band theories.

UNIT-III

CHEMICAL BONDING II

Covalent bond: Lewis structure, Valence bond theory and its limitations, Concept of hybridization, Energetics of hybridization, equivalent and non-equivalent hybrid orbitals. Valence shell electron pair repulsion theory (VSEPR), shapes of the following simple molecules and ions containing lone pairs and bond pairs of electrons: H_2O , NH_3 , PCl_3 , PCl_5 , SF_6 , H_3O^+ , SF_4 , ClF_3 , and ICl_2^- Molecular orbital theory. Bond order and bond strength, Molecular orbital diagrams of diatomic and simple polyatomic molecules N_2 , O_2 , F_2 , CO , NO .

UNIT-IV

A. s-BLOCK ELEMENTS

General concepts on group relationships and gradation properties, Comparative study, salient features of hydrides, solvation & complexation tendencies including their function in biosystems and introduction to alkyl & aryls, Derivatives of alkali and alkaline earth metals

B. p-BLOCK ELEMENTS

General concepts on group relationships and gradation properties. Halides, hydrides, oxides and oxyacids of Boron, Aluminum, Nitrogen and Phosphorus. Boranes, borazines, fullerenes, graphene and silicates, interhalogens and pseudohalogens.

UNIT-V

A CHEMISTRY OF NOBLE GASES

Chemical properties of the noble gases, chemistry of xenon, structure, bonding in xenon compounds

B. THEORETICAL PRINCIPLES IN QUALITATIVE ANALYSIS (H_2S SCHEME)

Basic principles involved in the analysis of cations and anions and solubility products, common ion effect. Principles involved in separation of cations into groups and choice of group reagents. Interfering anions (fluoride, borate, oxalate and phosphate) and need to remove them after Group II.



REFERENCE BOOKS:

1. Lee, J. D. Concise Inorganic Chemistry ELBS, 1991.
2. Douglas, B.E. and McDaniel, D.H. Concepts & Models of Inorganic Chemistry Oxford, 1970
3. Atkins, P.W. & Paula, J. Physical Chemistry, 10th Ed., Oxford University Press, 2014.
4. Day, M.C. and Selbin, J. Theoretical Inorganic Chemistry, ACS Publications, 1962.
5. Rodger, G.E. Inorganic and Solid State Chemistry, Cengage Learning India Edition, 2002.
6. Puri, B. R., Sharma, L. R. and Kalia, K. C., Principles of Inorganic Chemistry, Milestone Publishers/ Vishal Publishing Co.; 33rd Edition 2016
7. Madan, R. D. Modern Inorganic Chemistry, S Chand Publishing, 1987.

PAPER: II

ORGANIC CHEMISTRY

UNIT-I BASICS OF ORGANIC CHEMISTRY

Hybridization, Shapes of molecules, Influence of hybridization on bond properties. Electronic Displacements: Inductive, electromeric, resonance and mesomeric effects, hyperconjugation and their applications; Dipole moment. Electrophiles and Nucleophiles; Nucleophilicity and basicity; Homolytic and Heterolytic cleavage, Generation, shape and relative stability of Carbocations, Carbanions, Free radicals, Carbenes and Nitrenes. Introduction to types of organic reactions: Addition, Elimination and Substitution reactions.

UNIT-II INTRODUCTION TO STEREOCHEMISTRY

Optical Isomerism: Optical Activity, Specific Rotation, Chirality/Asymmetry, Enantiomers, Molecules with two or more chiral-centres, Diastereoisomers, meso compounds, Relative and absolute configuration: Fischer, Newmann and Sawhorse Projection formulae and their interconversions; Erythrose and threose, D/L, d/l system of nomenclature, Cahn-Ingold-Prelog system of nomenclature (C.I.P rules), R/S nomenclature. Geometrical isomerism: cis-trans, syn-anti and E/Z notations.

UNIT-III CONFORMATIONAL ANALYSIS OF ALKANES

Conformational analysis of alkanes, ethane, butane, cyclohexane and sugars. Relative stability and Energy diagrams. Types of cycloalkanes and their relative stability, Baeyer strain theory: Theory of strainless rings, Chair, Boat and Twist boat conformation of cyclohexane with energy diagrams; Relative stability of mono-substituted cycloalkanes and disubstituted cyclohexane.



UNIT-IV CHEMISTRY OF ALIPHATIC HYDROCARBONS

A. Carbon-Carbon sigma (σ) bonds

Chemistry of alkanes: Formation of alkanes, Wurtz Reaction, Wurtz-Fittig Reaction, Free radical substitutions: Halogenation-relative reactivity and selectivity.

B. Carbon-Carbon Pi (π) bonds:

Formation of alkenes and alkynes by elimination reactions, Mechanism of E1, E2, E1cb reactions. Saytzeff and Hofmann eliminations.

Reactions of alkenes: Electrophilic additions and mechanisms (Markownikoff/ Anti - Markownikoff addition), mechanism of oxymercuration-demercuration, hydroboration-oxidation, ozonolysis, reduction (catalytic and chemical), syn and anti-hydroxylation (oxidation). 1,2-and 1,4-addition reactions in conjugated dienes and, Diels-Alder reaction; Allylic and benzylic bromination and mechanism, e.g. propene, 1-butene, toluene, ethyl benzene.

Reactions of alkynes: Acidity, Electrophilic and Nucleophilic additions. Hydration to form carbonyl compounds, Alkylation of terminal alkynes.

UNIT-V AROMATIC HYDROCARBONS

Aromaticity: Hückel's rule, aromatic character of arenes, cyclic carbocations/ carbanions and heterocyclic compounds with suitable examples. Electrophilic aromatic substitution: halogenation, nitration, sulphonation and Friedel-Craft's alkylation/acylation with their mechanism. Directive effects of the groups.

REFERENCE BOOKS:

1. Morrison, R. N. & Boyd, R. N. Organic Chemistry, Dorling Kindersley (India) Pvt. Ltd.(Pearson Education).
2. Finar, I. L. Organic Chemistry (Volume 1), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
3. Finar, I. L. Organic Chemistry (Volume 2: Stereochemistry and the Chemistry of Natural Products), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
4. Eliel, E. L. & Wilen, S. H. Stereochemistry of Organic Compounds, Wiley: London, 1994.



5. Kalsi, P. S. Stereochemistry Conformation and Mechanism, New Age International, 2005.
6. McMurry, J.E. Fundamentals of Organic Chemistry, 7th Ed. Cengage Learning India Edition, 2013.
7. Organic Chemistry, Paula Y. Bruice, 2nd Edition, Prentice-Hall, International Edition (1998).
8. A Guide Book of Reaction Mechanism by Peter Sykes.

PAPER - III

PHYSICAL CHEMISTRY

M.M.34

UNIT-I

MATHEMATICAL CONCEPTS FOR CHEMIST

Basic Mathematical Concepts: Logarithmic relations, curve sketching, linear graphs, Properties of straight line, slope and intercept, Functions, Differentiation of functions, maxima and minima; integrals; ordinary differential equations; vectors and matrices; determinants; Permutation and combination and probability theory, Significant figures and their applications.

UNIT-II

GASEOUS STATE CHEMISTRY

Kinetic molecular model of a gas: postulates and derivation of the kinetic gas equation; collision frequency; collision diameter; mean free path; Maxwell distribution and its use in evaluating molecular velocities (average, root mean square and most probable) and average kinetic energy, law of equipartition of energy, degrees of freedom and molecular basis of heat capacities. Joule Thompson effect, Liquification of Gases.

Behaviour of real gases: Deviations from ideal gas behaviour, compressibility factor (Z), and its variation with pressure and temperature for different gases. Causes of deviation from ideal behaviour. van der Waals equation of state, its derivation and application in explaining real gas behaviour, calculation of Boyle temperature. Isotherms of real gases and their comparison with van der Waals isotherms, continuity of states, critical state, relation between critical constants and van der Waals constants, law of corresponding states.

UNIT-III



A. LIQUID STATE CHEMISTRY

Intermolecular forces, magnitude of intermolecular force, structure of liquids, Properties of liquids, viscosity and surface tension.

B. COLLOIDS and SURFACE CHEMISTRY

Classification, Optical, Kinetic and Electrical Properties of colloids, Coagulation, Hardy Schulze law, flocculation value, Protection, Gold number, Emulsion, micelles and types, Gel, Syneresis and thixotrophy, Application of colloids.

Physical adsorption, chemisorption, adsorption isotherms (Langmuir and Freundlich). Nature of adsorbed state. Qualitative discussion of BET.

UNIT-IV

SOLID STATE CHEMISTRY

Nature of the solid state, law of constancy of interfacial angles, law of rational indices, Miller indices, elementary ideas of symmetry, symmetry elements and symmetry operations, qualitative idea of point and space groups, seven crystal systems and fourteen Bravais lattices; X-ray diffraction, Bragg's law, a simple account of rotating crystal method and powder pattern method. Crystal defects.

UNIT-V

A. CHEMICAL KINETICS

Rate of reaction, Factors influencing rate of reaction, rate law, rate constant, Order and molecularity of reactions, rate determining step, Zero, First and Second order reactions, Rate and Rate Law, methods of determining order of reaction, Chain reactions.

Temperature dependence of reaction rate, Arrhenius theory, Physical significance of Activation energy, collision theory, demerits of collision theory, non mathematical concept of transition state theory.

B. CATALYSIS

Homogeneous and Heterogeneous Catalysis, types of catalyst, characteristic of catalyst, Enzyme catalysed reactions, Micellar catalysed reactions, Industrial applications of Catalysis.

REFERENCE BOOKS:

1. Atkins, P. W. & Paula, J. de Atkin's Physical Chemistry 10th Ed., Oxford University Press (2014).



2. Ball, D. W. Physical Chemistry Thomson Press, India (2007).
3. Castellan, G. W. Physical Chemistry 4th Ed. Narosa (2004).
4. Mortimer, R. G. Physical Chemistry 3rd Ed. Elsevier: NOIDA, UP (2009).
5. Engel, T. & Reid, P. Physical Chemistry 3rd Ed. Pearson (2013).
6. Puri, B.R., Sharma, L. R. and Pathania, M.S., Principles of Physical Chemistry, Vishal Publishing Co., 47th Ed. (2016).
7. Bahl, A., Bahl, B.S. and Tuli, G.D. Essentials of Physical Chemistry, S Chand Publishers (2010).
8. Rakshit P.C., Physical Chemistry, Sarat Book House Ed. (2014).
9. Singh B., Mathematics for Chemist, Pragati Publications.

PAPER - IV LABORATORY COURSE

INORGANIC CHEMISTRY

A. Semi-micro qualitative analysis (using H_2S or other methods) of mixtures - not more than four ionic species (two anions and two cations, excluding interfering, insoluble salts) out of the following:

Cations : NH_4^+ , Pb^{2+} , Bi^{3+} , Cu^{2+} , Cd^{2+} , Fe^{3+} , Al^{3+} , Co^{2+} , Ni^{2+} , Mn^{2+} , Zn^{2+} , Ba^{2+} , Sr^{2+} , Ca^{2+} , Na^+
 Anions : CO_3^{2-} , S^{2-} , SO_3^{2-} , $\text{S}_2\text{O}_3^{2-}$, NO_2^- , CH_3COO^- , Cl^- , Br^- , I^- , NO_3^- , SO_4^{2-}

(Spot tests may be carried out wherever feasible)

B. Acid-Base Titrations

- Standardization of sodium hydroxide by oxalic acid solution.
- Determination of strength of HCl solution using sodium hydroxide as intermediate.
- Estimation of carbonate and hydroxide present together in mixture.
- Estimation of carbonate and bicarbonate present together in a mixture.
- Estimation of free alkali present in different soaps/detergents

C. Redox Titrations

- Standardization of KMnO_4 by oxalic acid solution.
- Estimation of Fe(II) using standardized KMnO_4 solution.
- Estimation of oxalic acid and sodium oxalate in a given mixture.
- Estimation of Fe(II) with $\text{K}_2\text{Cr}_2\text{O}_7$ using internal (diphenylamine, anthranilic acid) and external indicator.

D. Iodo / Iodimetric Titrations

- Estimation of Cu(II) and $\text{K}_2\text{Cr}_2\text{O}_7$ using sodium thiosulphate solution iodimetrically.
- Estimation of (a) arsenite and (b) antimony iodimetrically.



- Estimation of available chlorine in bleaching powder iodometrically.
- Estimation of Copper and Iron in mixture by standard solution of $K_2Cr_2O_7$ using sodium thiosulphate solution as titrants.

ORGANIC CHEMISTRY

1. Demonstration of laboratory Glasswares and Equipments.
2. Calibration of the thermometer. $80^\circ-82^\circ$ (Naphthalene), $113.5^\circ-114^\circ$ (Acetanilide), $132.5^\circ-133^\circ$ (Urea), 100° (Distilled Water).
3. Purification of organic compounds by crystallization using different solvents.
 - Phthalic acid from hot water (using fluted filter paper and stemless funnel).
 - Acetanilide from boiling water.
 - Naphthalene from ethanol.
 - Benzoic acid from water.
4. Determination of the melting points of organic compounds.
 Naphthalene $80^\circ-82^\circ$, Benzoic acid $121.5^\circ-122^\circ$, Urea $132.5^\circ-133^\circ$, Succinic acid $184.5^\circ-185^\circ$, Cinnamic acid $132.5^\circ-133^\circ$, Salicylic acid $157.5^\circ-158^\circ$, Acetanilide $113.5^\circ-114^\circ$, m-Dinitrobenzene 90° , p-Dichlorobenzene 52° , Aspirin 135° .
5. Effect of impurities on the melting point – mixed melting point of two unknown organic compounds.
 - Urea – Cinnamic acid mixture of various compositions (1:4, 1:1, 4:1).
6. Determination of boiling point of liquid compounds. (boiling point lower than and more than $100^\circ C$ by distillation and capillary method).
 - Ethanol 78° , Cyclohexane 81.4° , Toluene 110.6° , Benzene 80° .
- i. Distillation (Demonstration)
 - Simple distillation of ethanol-water mixture using water condenser.
 - Distillation of nitrobenzene and aniline using air condenser.
- ii. Sublimation
 - Camphor, Naphthalene, Phthalic acid and Succinic acid.
- iii. Decolorisation and crystallization using charcoal.
 - Decolorisation of brown sugar with animal charcoal using gravity filtrations crystallization and decolorisation of impure naphthalene (100 g of naphthalene mixed with 0.3 g of Congo red using 1 g of decolorizing carbon) from ethanol.
7. Qualitative Analysis



Detection of elements (N, S and halogens) and functional groups (Phenolic, Carboxylic, Carbonyl, Esters, Carbohydrates, Amines, Amides, Nitro and Anilide) in simple organic compounds.

PHYSICAL CHEMISTRY

1. Surface tension measurements.
 - Determine the surface tension by (i) drop number (ii) drop weight method.
 - Surface tension composition curve for a binary liquid mixture.
2. Viscosity measurement using Ostwald's viscometer.
 - Determination of viscosity of aqueous solutions of (i) sugar (ii) ethanol at room temperature.
 - Study of the variation of viscosity of sucrose solution with the concentration of solute.
 - Viscosity Composition curve for a binary liquid mixture.
3. Chemical Kinetics
 - To determine the specific rate of hydrolysis of methyl/ethyl acetate catalysed by hydrogen ions at room temperature.
 - To study the effect of acid strength on the hydrolysis of an ester.
 - To compare the strengths of HCl & H₂SO₄ by studying the kinetics of hydrolysis of ethyl acetate.
4. Colloids
 - To prepare colloidal solution of silver nanoparticles (reduction method) and other metal nanoparticles using capping agents.

Note: Experiments may be added/ deleted subject to availability of time and facilities



PRACTICAL EXAMINATION

05 Hrs.
M.M. 50

Three experiments are to be performed

1. Inorganic Mixture Analysis, four radicals two basic & two acid (excluding insoluble, Interfering & combination of acid radicals) OR Two Titrations (Acid-Bases, Redox and Iodo/Iodimetry)

12 marks

2. Detection of functional group in the given organic compound and determine its MPt/BPt.

8 marks

O R

Crystallization of any one compound as given in the prospectus along with the determination of mixed MPt.

O R

Decolorisation of brown sugar along with sublimation of camphor/ Naphthlene.

3. Any one physical experiment that can be completed in two hours including calculations.

14 marks

4. Viva

10 marks

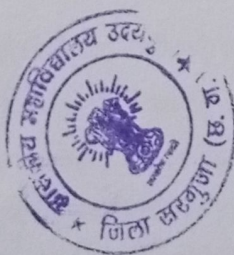
5. Sessionals

06 marks

In case of Ex-Students two marks will be added to each of the experiments

REFERENCE TEXT:

1. Mendham, J., A. I. Vogel's Quantitative Chemical Analysis 6th Ed., Pearson, 2009.
2. Ahluwalia, V. K., Dhingra, S. and Gulati, A. College practical Chemistry, University Press.
3. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
4. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
5. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
6. Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).
7. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.: New York (2003).



NEW CURRICULUM OF B.Sc. PART II

CHEMISTRY

The new curriculum will comprise of three papers of 33, 33 and 34 marks each and practical work of 50 marks. The Curriculum is to be completed in 180 working days as per UGC norms and conforming to the directives of Govt. of Chhattisgarh. The theory papers are of 60 hrs. each duration and practical work of 180 hrs duration.

Paper – I INORGANIC CHEMISTRY

60 Hrs., Max Marks 33

UNIT-I

CHEMISTRY OF TRANSITION SERIES ELEMENTS

Transition Elements: Position in periodic table, electronic configuration, General Characteristics, viz., atomic and ionic radii, variable oxidation states, ability to form complexes, formation of coloured ions, magnetic moment μ_{so} (spin only) and μ_{eff} and catalytic behaviour. General comparative treatment of 4d and 5d elements with their 3d analogues with respect to ionic radii, oxidation states and magnetic properties.

UNIT-II

A. Oxidation and Reduction: Redox potential, electrochemical series and its applications, Principles involved in extraction of the elements.

B. COORDINATION COMPOUNDS: Werner's theory and its experimental verification, IUPAC nomenclature of coordination compounds, isomerism in coordination compounds. Stereochemistry of complexes with 4 and 6 coordination numbers. Chelates, polynuclear complexes.

UNIT-III

COORDINATION CHEMISTRY

Valence bond theory (inner and outer orbital complexes), electroneutrality principle and back bonding. Crystal field theory, Crystal field splitting and stabilization energy, measurement of $10 Dq$ (Δ_o), CFSE in weak and strong fields, pairing energies, factors affecting the magnitude of $10 Dq$ (Δ_o , Δ_t). Octahedral vs. tetrahedral coordination.

UNIT-IV

A. CHEMISTRY OF LANTHANIDE ELEMENTS

Electronic structure, oxidation states and ionic radii and lanthanide contraction, complex formation, occurrence and isolation, lanthanide compounds.

B. CHEMISTRY OF ACTINIDES



General features and chemistry of actinides, chemistry of separation of Np, Pu and Am from uranium, similarities between the later actinides and the later lanthanides

UNIT-V

A. ACIDS BASES : Arrhenius, Bronsted-Lowry, conjugate acids and bases, relative strengths of acids and bases, the Lux-flood, solvent system and Lewis concepts of acids and bases.

B. NON-AQUEOUS SOLVENTS

.Physical properties of a solvent, types of solvents and their general characteristics, reaction in non-aqueous solvents with reference to liquid ammonia and liquid sulphur dioxide, HF, H₂SO₄ , Ionic liquids.

REFERENCE BOOKS

1. Basic Inorganic Chemistry, F. A. Cotton, G. Wilkinson and P. L. Gaus, Wiley
2. Concise Inorganic Chemistry, J. D. Lee, ELBS
3. Concepts of Models of Inorganic Chemistry, B. Douglas, D. Mc Daniel and J. Alexander, John Wiley.
4. Inorganic Chemistry, D. E. Shriver, P. W. Atkins and C. H. Langford, Oxford.
5. Inorganic Chemistry, W. W. Porterfield, Addison – Wiley.
6. Inorganic Chemistry, A. G. Sharp, ELBS.
7. Inorganic Chemistry, G. L. Miessler and D. A. Tarr, Prentice Hall.
8. Advanced Inorganic Chemistry, Satya Prakash.
9. Advanced Inorganic Chemistry, Agarwal and Agarwal
10. Advanced Inorganic Chemistry, Puri, Sharma, S. Naginchand
11. Inorganic Chemistry, Madan, S. Chand
12. Aadhunik Akarbanic Rasayan, A. K. Shrivastav & P. C. Jain, Goel Pub
13. Uchchattar Akarbanic Rasayan, satya Prakash & G. D. Tuli, Shyamal Prakashan
14. Uchchattar Akarbanic Rasayan, Puri & Sharma
15. Selected topic in Inorganic Chemistry by Madan Malik & Tuli, S. Chand.



Paper – II
ORGANIC CHEMISTRY

60 Hrs. Max Marks 33

UNIT-I

HETEROCYCLIC COMPOUNDS

Classification and nomenclature, Structure, aromaticity in 5-membered and 6-membered rings containing one heteroatom; Synthesis, reactions and mechanism of substitution reactions of: Furan, Pyrrole (Paal-Knorr synthesis, Knorr pyrrole synthesis, Hantzsch synthesis), Thiophene, Pyridine (Hantzsch synthesis), Indole (Fischer indole synthesis and Madelung synthesis), Quinoline and isoquinoline, (Skraup synthesis, Friedlander's synthesis, Knorr quinoline synthesis, Doebner-Miller synthesis, Bischler-Napieralski reaction, Pictet-Spengler reaction, Pomeranz-Fritsch reaction).

UNIT II

A. ORGANOMETALLIC REAGENT

Organomagnesium compounds: Grignard reagents formation, structure and chemical reactions.

Organozinc compounds: formation and chemical reactions.

Organolithium compounds: formation and chemical reactions.

B. ORGANIC SYNTHESIS VIA ENOLATES

Active methylene group, alkylation of diethylmalonate and ethyl acetoacetate, Synthesis of ethyl acetoacetate: The Claisen condensation. Keto-enol tautomerism of ethyl acetoacetate. Robinson annulations reaction.

UNIT-III

BIOMOLECULES

A. CARBOHYDRATES

Occurrence, classification and their biological importance. Monosaccharides: relative and absolute configuration of glucose and fructose, epimers and anomers, mutarotation, determination of ring size of glucose and fructose, Haworth projections and conformational structures; Interconversions of aldoses and ketoses; Killiani Fischer synthesis and Ruff degradation; Disaccharides – Structural comparison of maltose, lactose and sucrose. Polysaccharides – Elementary treatment of starch and cellulose.



REFERENCE BOOKS

1. Basic Inorganic Chemistry, F. A. Cotton, G. Wilkinson and P. L. Gaus, Wiley.
2. Concise Inorganic Chemistry, J. D. Lee, ELBS.
3. Concepts of Models of Inorganic Chemistry, B. Douglas, D. Mc Daniel and J. Alexander, John Wiley.
4. Inorganic Chemistry, D. E. Shriver, P. W. Atkins and C. H. Langford, Oxford.
5. Inorganic Chemistry, W. W. Porterfield, Addison – Wiley.
6. Inorganic Chemistry, A. G. Sharp, ELBS.
7. Inorganic Chemistry, G. L. Miessler and D. A. Tarr, Prentice Hall.
8. Advanced Inorganic Chemistry, Satya Prakash.
9. Advanced Inorganic Chemistry, Agarwal and Agarwal.
10. Advanced Inorganic Chemistry, Puri, Sharma, S. Naginchand.
11. Inorganic Chemistry, Madan, S. Chand.
12. Aadhunik Akarbanic Rasayan, A. K. Shrivastav & P. C. Jain, Goel Pub.
13. Uchchattar Akarbanic Rasayan, satya Prakash & G. D. Tuli, Shyamal Prakashan.
14. Uchchattar Akarbanic Rasayan, Puri & Sharma.
15. Selected topic in Inorganic Chemistry by Madan Malik & Tuli, S. Chand.



UNIT-III

ORGANOMETALLIC CHEMISTRY

Definition and classification of organometallic compounds on the basis of bond type. Concept of hapticity of organic ligands. Metal carbonyls: 18-electron rule, electron count of mononuclear, polynuclear and substituted metal carbonyls of 3d series. General methods of preparation (direct combination, reductive carbonylation, thermal and photochemical decomposition) of mono and binuclear carbonyls of 3d series.

Structures of mononuclear and binuclear carbonyls of Cr, Mn, Fe, Co and Ni using VBT. π -acceptor behavior of CO (MO diagram of CO to be discussed), Zeise's salt: Preparation and structure.

Catalysis by Organometallic Compounds –

Study of the following industrial processes and their mechanism :

1. Alkene hydrogenation (Wilkinsons Catalyst)
2. Polymeration of ethane using Ziegler – Natta Catalyst

UNIT-IV

BIOINORGANIC CHEMISTRY

Essential and trace elements in biological processes, Excess and deficiency of some trace metals, Toxicity of some metal ions (Hg, Pb, Cd and As), metalloporphyrins with special reference to hemoglobin and myoglobin. Biological role of alkali and alkaline earth metals with special reference to Ca^{2+} and Mg^{2+} , nitrogen fixation.

UNIT-V

HARD AND SOFT ACIDS AND BASES (HSAB) Classification of acids and bases as hard and soft. Pearson's HSAB concept, acid-base strength and hardness and softness. Symbiosis, Applications of HSAB principle.

INORGANIC POLYMERS

Types of inorganic polymers, comparison with organic polymers, synthesis, structural aspects and applications of silicones. Silicates, phosphazenes and polyphosphate.



NEW CURRICULUM OF B.Sc. PART III

CHEMISTRY

The new curriculum will comprise of three papers of 33, 33 and 34 marks each and practical work of 50 marks. The Curriculum is to be completed in 180 working days as per UGC norms and conforming to the directives of Govt. of Chhattisgarh. The theory papers are of 60 hrs. each duration and practical work of 180 hrs duration.

Paper – I INORGANIC CHEMISTRY

60 Hrs., Max Marks 33

UNIT-I

METAL-LIGAND BONDING IN TRANSITION METAL COMPLEXES

(A) Limitations of valence bond theory, Limitation of Crystal Field Theory, Application of CFSE, tetragonal distortions from octahedral geometry, Jahn–Teller distortion, square planar geometry. Qualitative aspect of Ligand field and MO Theory.

(B) Thermodynamic and kinetic aspects of metal complexes. A brief outline of thermodynamic stability of metal complexes and factors affecting the stability, substitution reactions of square planar complexes, Trans- effect, theories of trans effect. Mechanism of substitution reactions of square planar complexes.

UNIT-II

MAGNETIC PROPERTIES OF TRANSITION METAL COMPLEXES

Types of magnetic behavior, methods of determining magnetic susceptibility, spin only formula, L-S coupling, correlation of $\mu_{\text{so}}(\text{spin only})$ and μ_{eff} values, orbital contribution to magnetic moments, application of magnetic moment data for 3d metal complexes.

Electronic spectra of Transition Metal Complexes.

Types of electronic transitions, selection rules for d-d transitions, spectroscopic ground states, spectro-chemical series. Orgel-energy level diagram for d^1 and d^2 states, discussion of the electronic spectrum of $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$ complex ion.



Hrs.5

PRACTICAL EXAMINATION

M.M.50

Three Experiments are to be performed.

1. Inorganic – Qualitative semimicro analysis of mixtures.

12 marks

OR

One experiment from synthesis and analysis by preparing the standard solution.

2. (a) Identification of the given organic compound & determine its M.Pt./B.Pt.

6 marks

(b) Determination of R_f value and identification of organic compounds by paper chromatography.

6 marks

3. Any one physical experiment that can be completed in two hours including calculations.

12 marks

4. Viva

10 marks

5. Sessional

04 marks

In case of Ex-Students one marks will be added to each of the experiment.



Phase Equilibrium

- To study the effect of a solute (e.g. NaCl, Succinic acid) on the critical solution temperature of two partially miscible liquids (e.g. phenol-water system) and to determine the concentration of that solute in the given phenol-water system.
- To construct the phase diagram of two component system (e.g. diphenylamine–benzophenone) by cooling curve method.
- Distribution of acetic/ benzoic acid between water and cyclohexane.
- Study the equilibrium of at least one of the following reactions by the distribution method:
 - (i) $I_2(aq) + I^- \rightarrow I_3^-(aq)$
 - (ii) $Cu^{2+}(aq) + nNH_3 \rightarrow Cu(NH_3)_n$

Molecular Weight Determination

Determination of molecular weight by Rast Camphor and Landsburger method.

Note: Experiments may be added/ deleted subject to availability of time and facilities.

Reference Books

1. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
2. Furniss, B.S., Hannaford, A.J., Smith, P.W.G. & Tatchell, A.R. Practical Organic Chemistry, 5th Ed. Pearson (2012)
3. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000). 22
4. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).
5. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011). Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).
6. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.: New York



- (c) Estimation of calcium content in chalk as calcium oxalate by permanganometry.
- (d) Estimation of hardness of water by EDTA.
- (e) Estimation of ferrous & ferric by dichromate method.
- (f) Estimation of copper using thiosulphate.
- Principles involved in chromatographic separations. Paper chromatographic separation of following metal ions: i. Ni (II) and Co (II) ii. Fe (III) and Al (III)

ORGANIC CHEMISTRY

- Detection of elements (X, N, S).
- Qualitative analysis of unknown organic compounds containing simple functional groups (alcohols, carboxylic acids, phenols, nitro, amine, amide, and carbonyl compounds, carbohydrates)
- Preparation of Organic Compounds:
 - (i) m-dinitrobenzene, (ii) Acetanilide, (iii) Bromo/Nitro-acetanilide, (iv) Oxidation of primary alcohols-Benzoic acid from benzylalcohol, (v) azo dye.

PHYSICAL CHEMISTRY

Transition Temperature

- Determination of the transition temperature of the given substance by thermometric/dialometric method (e.g. $\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$ / $\text{SrBr}_2 \cdot 2\text{H}_2\text{O}$).

Thermochemistry

- Determination of heat capacity of a calorimeter for different volumes using change of enthalpy data of a known system (method of back calculation of heat capacity of calorimeter from known enthalpy of solution or enthalpy of neutralization).
- Determination of heat capacity of the calorimeter and enthalpy of neutralization of hydrochloric acid with sodium hydroxide.
- To determine the solubility of benzoic acid at different temperature and to determine ΔH of the dissolution process.
- To determine the enthalpy of neutralization of a weak acid/ weak base versus strong base/ strong acid and determine the enthalpy of ionization of the weak acid/ weak base.
- To determine the enthalpy of solution of solid calcium chloride and calculate the lattice energy of calcium chloride from its enthalpy data using Born Haber cycle.



Jablonski diagram depicting various process occurring in the excited state, qualitative description of fluorescence, phosphorescence, non-radiative processes (internal conversion, intersystem crossing), photosensitized reactions, energy transfer processes {simple examples}, photostationary states, Chemiluminescence.

REFERENCE BOOKS

1. Physical Chemistry, G. M. Barrow, International student edition, McGraw Hill.
2. University General Chemistry, C. N. R. Rao, Macmillan.
3. Physical Chemistry, R. A. Alberty, Wiley Eastern.
4. The elements of physical chemistry, Wiley Eastern.
5. Physical Chemistry through problems, S. K. Dogra & S. Dogra, Wiley Eastern.
6. Physical Chemistry, B. D. Khosla,.
7. Physical Chemistry, Puri & Sharma.
8. Bhautik Rasayan, Puri, Sharma and Pathania, Vishal Publishing Company.
9. Bhautik Rasayan, P. L. Soni.
10. Bhautik Rasayan, Bahl and Tuli.
11. Physical Chemistry, R. L. Kapoor, Vol I-IV .
12. Chemical kinetics, K. J. Laidler, Pearson Educations, New Delhi (2004).

Paper –IV

LABORATORY COURSE

INORGANIC CHEMISTRY

Qualitative semimicro analysis of mixtures containing 5 radicals. Emphasis should be given to the understanding of the chemistry of different reactions. The following radicals are suggested:

CO_3^{2-} , NO_2^- , S^{2-} , SO_3^{2-} , $\text{S}_2\text{O}_3^{2-}$, CH_3COO^- , F^- , Cl^- , Br^- , I^- , NO_3^- , BO_3^{3-} , $\text{C}_2\text{O}_4^{2-}$, PO_4^{3-} , NH_4^+ , K^+ , Pb^{2+} , Cu^{2+} , Cd^{2+} , Bi^{3+} , Sn^{2+} , Sb^{3+} , Fe^{3+} , Al^{3+} , Cr^{3+} , Zn^{2+} , Mn^{2+} , Co^{2+} , Ni^{2+} , Ba^{2+} , Sr^{2+} , Ca^{2+} , Mg^{2+} .

Mixtures should preferably contain one interfering anion, or insoluble component (BaSO_4 , SrSO_4 , PbSO_4 , CaF_2 or Al_2O_3) or combination of anions e.g. CO_3^{2-} and SO_3^{2-} , NO_2^- and NO_3^- , Cl^- , Br^- , and I^- .

Volumetric analysis

- (a) Determination of acetic acid in commercial vinegar using NaOH.
- (b) Determination of alkali content-antacid tablet using HCl.



UNIT III

A CHEMICAL EQUILIBRIUM

Criteria of thermodynamic equilibrium, degree of advancement of reaction, chemical equilibria in ideal gases. Concept of Fugacity, Thermodynamic derivation of relation between Gibbs free energy of reaction and reaction quotient. Coupling of exergonic and endergonic reactions. Equilibrium constants and their quantitative dependence on temperature, pressure and concentration. Thermodynamic derivation of relations between the various equilibrium constants K_p , K_c and K_x . Le Chatelier principle (quantitative treatment). Equilibrium between ideal gas and a pure condensed phase.

B IONIC EQUILIBRIA

Ionization of weak acids and bases, pH scale, common ion effect; dissociation constants of mono protic acids (exact treatment). Salt hydrolysis-calculation of hydrolysis constant, degree of hydrolysis and pH for different salts. Buffer solutions; derivation of Henderson equation and its applications. Solubility and solubility product of sparingly soluble salts – applications of solubility product principle.

UNIT-IV

PHASE EQUILIBRIUM

A. Phase rule, Phase, component and degree of freedom, derivation of Gibbs phase rule, Clausius-Claperon equation and its applications to Solid-Liquid, Liquid-Vapor and solid-Vapor, limitation of phase rule, applications of phase rule to one component system: Water system and sulphur system.

Application of phase rule to two component system: Pb-Ag system, desilverization of lead, Zn-Mg system Ferric chloride-water system, congruent and incongruent, melting point and eutectic point.

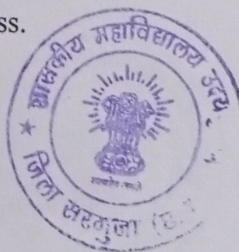
Three component system: Solid solution liquid pairs.

B. Nernst distribution law, Henry's law, application, solvent extraction

UNIT V

PHOTOCHEMISTRY

Characteristics of electromagnetic radiation, Interaction of radiation with matter, difference between thermal and photochemical processes, Lambert-Beer's law and its limitations, physical significance of absorption coefficients. Laws of photochemistry: Grothus-Drapper law, Stark-Einstein law, quantum yield, actinometry, examples of low and high quantum yields, Photochemical equilibrium and the differential rate of photochemical reactions, Quenching, Role of photochemical reaction in biochemical process.



8. Organic Chemistry, Bahl and Bahl.
9. Organic Chemistry, Joginder Singh.
10. Carbanic Rasayan, Bahl and Bahl.
11. Carbanic Rasayan, R. N. Singh, S. M. I. Gupta, M. M. Bakidia & S. K. Wadhwa.
12. Carbanic Rasayan, Joginder Singh.

Paper – III
PHYSICAL CHEMISTRY

60 Hrs., Max Marks 34

UNIT-I

A. THERMODYNAMICS-I

Intensive and extensive variables; state and path functions; isolated, closed and open systems; Zeroth law of thermodynamics. First law: Concept of heat, work, internal energy and statement of first law; enthalpy, Relation between heat capacities, calculations of q , w , U and H for reversible, irreversible and free expansion of gases under isothermal and adiabatic conditions. Joule-Thompson expansion, inversion temperature of gases, expansion of ideal gases under isothermal and adiabatic condition

B. THERMO CHEMISTRY

Thermochemistry, Laws of Thermochemistry, Heats of reactions, standard states; enthalpy of formation of molecules and ions and enthalpy of combustion and its applications; calculation of bond energy, bond dissociation energy and resonance energy from thermochemical data, effect of temperature (Kirchhoff's equations) and pressure on enthalpy of reactions, Adiabatic flame temperature, explosion temperature.

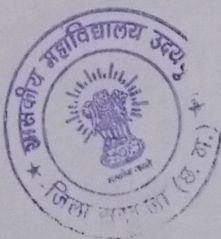
UNIT-II

A. THERMODYNAMICS-II

Second Law of Thermodynamics: Spontaneous process, Second law, Statement of Carnot cycle and efficiency of heat engine, Carnot's theorem, thermodynamic state of temperature.

Concept of entropy: Entropy change in a reversible and irreversible process, entropy change in isothermal reversible expansion of an ideal gas, entropy change in isothermal mixing of ideal gases, physical signification of entropy, Molecular and statistical interpretation of entropy.

- B.** Gibbs and Helmholtz free energy, variation of G and A with pressure, volume, temperature, Gibbs-Helmholtz equation, Maxwell relations, Elementary idea of Third law of Thermodynamics, concept of residual entropy, calculation of absolute entropy of molecule.



ketones.

UNIT-IV

A. CARBOXYLIC ACIDS

Preparation, Structure and bonding, Physical and chemical properties including, acidity of carboxylic acids, effects of substituents on acid strength, Hell-Volhard Zeilinsky reaction. Reduction of carboxylic groups, Mechanism of decarboxylation.

Di carboxylic acids: Methods of formation and effect of heat and dehydrating agents, Hydroxyacids.

B. CARBOXYLIC ACID DERIVATIVES

Structure of acid chlorides, esters, amides and acid anhydrides, Relative stability of acyl derivatives.

Physical properties, inter-conversion of acid derivatives by nucleophilic acyl substitution.

Mechanism of acid and base catalyzed esterification and hydrolysis.

UNIT-V

ORGANIC COMPOUNDS OF NITROGEN

A. Preparation of nitroalkanes and nitroarenes. Chemical reactions of nitroalkanes. Mechanism of nucleophilic substitution in nitroarenes and their reduction in acidic, neutral and alkaline medium.

B. Reactivity, structure and nomenclature of amines, physical properties. Stereochemistry of amines. Separation of mixture of primary, secondary and tertiary amines. Structural features affecting basicity of amines. Preparation of alkyl and aryl amines (reduction of nitro compounds and nitriles), reductive amination of aldehydic and ketonic compounds. Gabriel-Phthalimide reaction, Hofmann-Bromamide reaction, Reactions of amines, electrophilic aromatic substitution of aryl amines, Reaction of amines with nitrous acid. Synthetic transformations of aryl diazonium salts, Azo coupling.

REFERENCE BOOKS

1. Organic Chemistry, Morrison and Boyd, Prentice-Hall.
2. Organic Chemistry, L. G. Wade Jr. Prentice Hall.
3. Fundamentals of Organic Chemistry, Solomons, John Wiley.
4. Organic Chemistry, Vol I, II, III S. M. Mukherjee, S. P. Singh and R. P. Kapoor, Wiley Easterns (New Age).
5. Organic Chemistry, F. A. Carey, McGraw Hill.
6. Introduction to Organic Chemistry, Struikweisser, Heathcock and Kosover, Macmillan.
7. Organic Chemistry, P. L. Soni.



UNIT-I

CHEMISTRY OF ORGANIC HALIDES

Alkyl halides: Methods of preparation, nucleophilic substitution reactions – S_N1 , S_N2 and S_Ni mechanisms with stereochemical aspects and effect of solvent etc.; nucleophilic substitution, elimination reactions.

Aryl halides: Preparation, including preparation from diazonium salts, Nucleophilic Aromatic Substitution; S_NAr , Benzyne mechanism. Relative reactivity of alkyl, allyl/benzyl, vinyl and aryl halides towards nucleophilic substitution reactions.

UNIT-II

ALCOHOLS

A. Alcohols: Nomenclature, preparation, properties and relative reactivity of 1° , 2° , 3° alcohols, Bouvaelt-Blanc Reduction for the preparation of alcohols, Dihydric alcohols – methods of formation, chemical reactions of vicinal glycols, oxidative cleavage [$Pb(OAc)_4$ and HIO_4] and pinacol-pinacolone rearrangement.

B. Trihydric alcohols - Nomenclature, methods of formation, chemical reactions of glycerol.

PHENOLS

A. Structure and bonding in phenols, physical properties and acidic character, Comparative acidic strength of alcohols and phenols, acylation and carboxylation.

B. Mechanism of Fries rearrangement, Claisen rearrangement, Gatterman synthesis, Hauben-Hoesh reaction, Lederer-Manasse reaction and Reimer-Tiemann reaction.

UNIT-III

ALDEHYDES AND KETONES

A. Nomenclature, structure and reactivity of carbonyl group. General methods of preparation of aldehydes and ketones.

Mechanism of nucleophilic addition to carbonyl groups: Benzoin, Aldol, Perkin and Knoevenagel condensation. Condensation with ammonia and its derivatives, Wittig reaction, Mannich reaction, Beckmann and Benzil- Benzilic rearrangement.

B. Use of acetate as protecting group, Oxidation of aldehydes, Baeyer-Villiger oxidation of ketones, Cannizzaro reaction, MPV, Clemmensen reduction, Wolf-Kishner reaction, $LiAlH_4$ and $NaBH_4$ reduction. Halogenation of enolizable ketones, An introduction to α,β -unsaturated aldehydes and



Potentiometry/pH metry

Perform the following potentio/pH metric titrations:

- i. Strong acid vs. strong base
- ii. Weak acid vs. strong base
- iii. Dibasic acid vs. strong base
- iv. Potassium dichromate vs. Mohr's salt
- v. Determination of pK_a of monobasic acid

UV/ Visible spectroscopy

- Verify Lambert-Beer's law and determine the concentration of CuSO₄/KMnO₄/K₂Cr₂O₇ in a solution of unknown concentration
- Determine the concentrations of KMnO₄ and K₂Cr₂O₇ in a mixture.
- Study the kinetics of iodination of propanone in acidic medium.
- Determine the amount of iron present in a sample using 1,10-phenanthroline.
- Determine the dissociation constant of an indicator (phenolphthalein).
- Study the kinetics of interaction of crystal violet/ phenolphthalein with sodium hydroxide.
- Study of pH-dependence of the UV-Vis spectrum (200-500 nm) of potassium dichromate.
- Spectral characteristics study (UV) of given compounds (acetone, acetaldehyde, acetic acid, etc.) in water.
- Absorption spectra of KMnO₄ and K₂Cr₂O₇ (in 0.1 M H₂SO₄) and determine λ_{\max} values.

Note: Experiments may be added/deleted subject to availability of time and facilities

REFERENCE BOOKS:

1. Vogel, A.I. Quantitative Organic Analysis, Part 3, Pearson (2012).31
2. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
4. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
5. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000)
6. Manual of Biochemistry Workshop, 2012, Department of Chemistry, University of Delhi.



- Benzylisothiuronium salt of one each of water soluble and water insoluble acids (benzoic acid, oxalic acid, phenyl acetic acid and phthalic acid).
- Aldol condensation using either conventional or green method.
- Benzil-Benzilic acid rearrangement.
- Preparation of sodium polyacrylate.
- Preparation of urea formaldehyde.
- Preparation of methyl orange.

The above derivatives should be prepared using 0.5-1g of the organic compound. The solid samples must be collected and may be used for recrystallization, melting point and TLC.

2. Qualitative Analysis Analysis of an organic mixture containing two solid components using water, NaHCO_3 , NaOH for separation and preparation of suitable derivatives.
3. Extraction of caffeine from tea leaves.
4. Analysis of Carbohydrate: aldoses and ketoses, reducing and non-reducing sugars.
5. Identification of simple organic compounds by IR spectroscopy and NMR spectroscopy. (Spectra to be provided).
6. Estimation of glycine by Sorenson's formalin method.
7. Study of the titration curve of glycine.
8. Estimation of proteins by Lowry's method.
9. Study of the action of salivary amylase on starch at optimum conditions.
10. Effect of temperature on the action of salivary amylase.

PHYSICAL CHEMISTRY

Conductometry

- Determination of cell constant
- Determination of equivalent conductance, degree of dissociation and dissociation constant of a weak acid.
- Perform the following conductometric titrations:
 - i. Strong acid vs. strong base
 - ii. Weak acid vs. strong base
 - iii. Mixture of strong acid and weak acid vs. strong base
 - iv. Strong acid vs. weak base
- To determine the strength of the given acid conductometrically using standard alkali solution.
- To determine the solubility and solubility product of a sparingly soluble electrolyte conductometrically
- To study the saponification of ethyl acetate conductometrically.



B.Sc. Part- III

PRACTICAL

Max. Marks-50

INORGANIC CHEMISTRY

Gravimetric analysis:

- Estimation of nickel (II) using Dimethylglyoxime (DMG).
- Estimation of copper as CuSCN
- Estimation of iron as Fe_2O_3 by precipitating iron as $\text{Fe}(\text{OH})_3$.
- Estimation of Al (III) by precipitating with oxine and weighing as $\text{Al}(\text{oxine})_3$ (aluminium oxinate).
- Estimation of Barium as BaSO_4

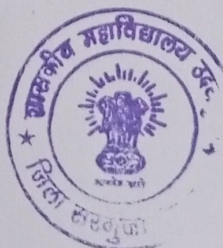
Inorganic Preparations:

- Tetraamminecopper (II) sulphate, $[\text{Cu}(\text{NH}_3)_4]\text{SO}_4 \cdot \text{H}_2\text{O}$
- Cis and trans $\text{K}[\text{Cr}(\text{C}_2\text{O}_4)_2 \cdot (\text{H}_2\text{O})_2]$ Potassium dioxalatodiaquachromate(III)
- Tetraamminecarbonatocobalt (III) ion
- Potassium tris(oxalate)ferrate(III)/ Sodium tris(oxalate)ferrate(III)
- Cu(I) thiourea complex, Bis (2,4-pentanedionate) zinc hydrate; Double salts (Chrome alum/ Mohr's salt)

ORGANIC CHEMISTRY

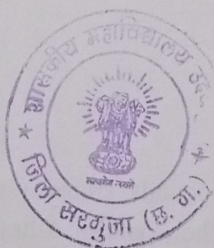
1. Preparation of organic Compounds

- Acetylation of one of the following compounds: amines (aniline, o-, m-, p- toluidines and o-,m-, p-anisidine) and phenols (β -naphthol, vanillin, salicylic acid)
- Benzoylation of one of the following amines (aniline, o-, m-, p- toluidines and o-, m-, panisidine) and one of the following phenols (β -naphthol, resorcinol, p cresol) by Schotten-Baumann reaction.
- Bromination of any one of the following: a. Acetanilide by conventional methods b.Acetanilide using green approach (Bromate-bromide method)
- Nitration of any one of the following: a. Acetanilide/nitrobenzene by conventional method b. Salicylic acid by green approach (using ceric ammonium nitrate).
- Reduction of p-nitrobenzaldehyde by sodium borohydride.
- Hydrolysis of amides and esters.
- Semicarbazone of any one of the following compounds: acetone, ethyl methyl ketone, cyclohexanone, benzaldehyde.



REFERENCE BOOKS

1. Physical chemistry, G.M.Barrow. International Student Edition McGraw Hill.
2. University General Chemistry, CNR Rao, Macmillan.
3. Physical Chemistry R.A.Alberty, Wiley Eastn.
4. The elements of Physical Chemistry P.W.Alkin,Oxford.
5. Physical Chemistry through problems, S.K.Dogra, Wiley Eastern.
6. Physical Chemistry B.D.Khosla.
7. Physical Chemistry, Puri & Sharma.
8. Bhoutic Rasayan, Puri & Sharma.
9. Bhoutic Rasayan, P.L.Soni.
10. Bhoutic Rasayan, Bahl & Tuli.
11. Physical Chemistry, R.L.Kapoor, Vol- I-IV.
12. Introduction to quantum chemistry,A.K.Chandra,Tata McGraw Hill.
13. Quantum Chemistry,Ira N.Levine, Prentice Hall.



Electronic Spectroscopy: Basic principles, Electronic Spectra of diatomic molecule, Franck-Condon principle, types of electronic transition, application of electronic spectra.

UNIT-IV

ELECTROCHEMISTRY-I

- A. Electrolytic conductance: Specific and equivalent conductance, measurement of equivalent conductance, effect of dilution on conductance, Kohlrausch law, application of Kohlrausch law in determination of dissociation constant of weak electrolyte, solubility of sparingly soluble electrolyte, absolute velocity of ions, ionic product of water, conductometric titrations.
- B. Theories of strong electrolyte: limitations of Ostwald's dilution law, weak and strong electrolytes, Elementary ideas of Debye-Huckel-Onsager's equation for strong electrolytes, relaxation and electrophoretic effects.
- C. Migration of ions: Transport number, Determination by Hittorf method and moving boundary method, ionic strength.

UNIT-V

ELECTROCHEMISTRY-II

- A. Electrochemical cell and Galvanic cells – reversible and irreversible cells, conventional representation of electrochemical cells, EMF of the cell and effect of temperature on EMF of the cell, Nernst equation Calculation of ΔG , ΔH and ΔS for cell reactions.
- B. Single electrode potential : standard hydrogen electrode, calomel electrode, quinhydrone electrode, redox electrodes, electrochemical series
- C. Concentration cell with and without transport, liquid - junction potential, application of concentration cells in determining of valency of ions, solubility product and activity coefficient
- D. Corrosion-types, theories and prevention



UNIT-I

QUANTUM MECHANICS-I

Black-body radiation, Planck's radiation law, photoelectric effect, Compton effect. Operator: Hamiltonian operator, angular momentum operator, Laplacian operator, postulate of quantum mechanics, eigen values, eigen function, Schrodinger time independent wave equation, physical significance of ψ & ψ^2 , application of Schrodinger wave equation to particle in a one dimensional box, hydrogen atom (separation into three equations) radial and angular wave functions.

UNIT-II

A. QUANTUM MECHANICS-II

Quantum Mechanical approach of Molecular orbital theory, basic ideas-criteria for forming M.O. and A.O., LCAO approximation, formation of H_2^+ ion, calculation of energy levels from wave functions, bonding and antibonding wave functions, Concept of σ , σ^* , π , π^* orbitals and their characteristics, Hybrid orbitals- sp , sp^2 , sp^3 Calculation of coefficients of A.O.'s used in these hybrid orbitals.

Introduction to valence bond model of H_2 , comparison of M.O. and V.B. models. Huckel theory, application of Huckel theory to ethene, propene, etc.

UNIT III

SPECTROSCOPY

Introduction: Characterization of Electromagnetic radiation, regions of the spectrum, representation of spectra, width and intensity of spectral transition, Rotational Spectrum of Diatomic molecules. Energy levels of a rigid rotor, selection rules, determination of bond length, qualitative description of non-rigid rotator, isotopic effect.

Vibrational Spectroscopy: Fundamental vibration and their symmetry vibrating diatomic molecules, Energy levels of simple harmonic oscillator, selection rules, pure vibrational spectrum, determination of force constant, anharmonic oscillator

Raman spectrum: Concept of polarizability, quantum theory of Raman spectra, stokes and antistokes lines, pure rotational and pure vibrational Raman spectra. Applications of Raman Spectra.



REFERENCE BOOKS

1. Organic Chemistry, Morrison and Boyd, Prentice-Hall.
2. Organic Chemistry, L. G. Wade Jr. Prentice Hall.
3. Fundamentals of Organic Chemistry, Solomons, John Wiley.
4. Organic Chemistry, Vol I, II, III S. M. Mukherjee, S. P. Singh and R. P. Kapoor, Wiley Easters (New Age).
5. Organic Chemistry, F. A. Carey, McGraw Hill.
6. Introduction to Organic Chemistry, Struiweisser, Heathcock and Kosover, Macmillan.
7. Acheson, R.M. Introduction to the Chemistry of Heterocyclic compounds, John Wiley & Sons (1976).
8. Graham Solomons, T.W. Organic Chemistry, John Wiley & Sons, Inc.
9. McMurry, J.E. Fundamentals of Organic Chemistry, 7th Ed. Cengage Learning IndiaEdition, 2013.
10. Kalsi, P. S. Textbook of Organic Chemistry 1st Ed., New Age International (P) Ltd. Pub.
11. Clayden, J.; Greeves, N.; Warren, S.; Wothers, P.; Organic Chemistry, Oxford University Press.



B. AMINO ACIDS, PROTEINS AND NUCLEIC ACIDS

Classification and Nomenclature of amino acids, Configuration and acid base properties of amino acids, Isoelectric Point, Peptide bonds, Protein structure, denaturation/ renaturation, Constituents of nucleic acid, DNA, RNA nucleoside, nucleotides, double helical structure of DNA.

UNIT-IV

SYNTHETIC POLYMERS

A. Addition or chain growth polymerization, Free radical vinyl polymerization, Ziegler-Natta polymerization, Condensation or Step growth polymerization, polyesters, polyamides, phenols- formaldehyde resins, urea-formaldehyde resins, epoxy resins and polyurethanes, natural and synthetic rubbers.

B. SYNTHETIC DYES

Colour and constitution (Electronic Concept). Classification of Dyes. Chemistry of dyes. Chemistry and synthesis of Methyl Orange, Congo Red, Malachite Green, Crystal Violet, phenolphthalein, fluorescein, Alizarine and Indigo.

UNIT-V

A. INFRA-RED SPECTROSCOPY

Basic principle, IR absorption Band their position and intensity, IR spectra of organic compounds.

B. UV-VISIBLE SPECTROSCOPY

Beer Lambert's law, effect of Conjugation, Types of electronic transitions λ_{\max} , Chromophores and Auxochromes, Bathochromic and Hypsochromic shifts, Intensity of absorption Visible spectrum and colour.

C. NMR SPECTROSCOPY

Basic principles of Proton Magnetic Resonance, Tetramethyl silane (TMS) as internal standard, chemical shift and factors influencing it; Spin – Spin coupling and coupling constant (J); Anisotropic effects in alkene, alkyne, aldehydes and aromatics, Interpretation of NMR spectra of simple organic compounds. ^{13}C MR spectroscopy: Principle and applications.



8 Hrs.

PRACTICAL EXAMINATION

M.M.50

Five experiments are to be performed.

1. **Inorganic** - Two experiments to be performed. Gravimetric estimation compulsory
08 marks. (Manipulation 3 marks)

Anyone experiment from synthesis and analysis **04 marks.**

2. **Organic** - Two experiments to be performed. Qualitative analysis of organic mixture containing two solid components. compulsory carrying **08 marks** (03 marks for each compound and two marks for separation).

One experiment from synthesis of organic compound (Single step) **04 marks.**

3. Physical-One physical experiment **12 marks.**

4. Sessional **04 marks.**

5. Viva Voce **10 marks.**

In case of Ex-Students one mark each will be added to Gravimetric analysis and Qualitative analysis of organic mixture and two marks in Physical experiment.



Zoology
B.Sc. Part I 2018-19
Paper I
(Cell Biology and Non-chordata)

Unit:I

1. The cell (Prokaryotic and Eukaryotic)
2. Organization of Cell: Extra-nuclear and nuclear Plasma membrane, Mitochondria, Endoplasmic reticulum, Golgi body, Ribosome and Lysosome).
3. Nucleus, Chromosomes, DNA and RNA

Unit:II

1. Cell division (Mitosis and Meiosis).
2. An elementary idea of Cancer cells And Cell transformation.
3. An elementary idea of Immunity: Innate & Acquired Immunity, Lymphoid organs, Cells of Immune System, Antigen, antibody and their interactions

Unit:III

- General characters and classification of Phylum Protozoa, Porifera, and Coelenterata up to order.
- 2. Protozoa: Type study - Paramecium,
- 2. Porifera: Type study - Sycon.
- 3. Coelenterata: Type study - Obelia

Unit: IV

- General characters and classification of Phylum Platyhelminthes, Nematelminthes, Annelida and Arthropoda up to order.
- 2. Platyhelminthes and Nematelminthes: Type Study – Fasciola, Ascaris
- 3. Annelida: Type Study - Pheretima.
- 4. Arthropoda: Type Study - Palaemone.

Unit:V

- General characters and classification of Phylum Mollusca and Echinodermata up to order.
- 2. Mollusca: Type Study - Pila.
- 3. Echinodermata- Type Study- Asterias (Starfish).



B.Sc.- I (BOTANY) PAPER-I

BACTERIA, VIRUSES, FUNGI, LICHENS AND ALGAE

UNIT-I

VIRUSES: General characteristics, types of viruses based on structure and genetic material. Multiplication of viruses (General account), Lytic and Lysogenic cycle. Economic importance. Structure and multiplication of Bacteriophages. General account of Viroids, Virusoids, Prions, and Cyanophages. Mycorrhiza-Types and Significance.

UNIT -II

BACTERIA: General characteristics and classification (on the basis of morphology), fine structure of bacterial cell, Gram positive and Gram negative bacteria, mode of nutrition and reproduction vegetative, asexual and recombination (Conjugation, transformation and transduction), Economic importance. Microbial Biotechnology, *Rhizobium*, *Azotobacter*, *Anabena*.

UNIT-III

FUNGI: General account of habit and habitat, structure (range of thallus organization), cell wall composition, nutrition and reproduction in fungi. Heterothallism and Parasexuality. Outlines of classification of fungi. Economic importance of fungi. Life cycles of *Saprolegnia*, *Albugo*, *Aspergillus*, *Peziza*, *Agaricus*, *Ustilago*, *Puccinia*, *Alternaria* and *Cercospora*. VAM Fungi

UNIT-IV

ALGAE: Algae: General characters, range of thallus organization, Gaidukov phenomenon, reproduction, life cycle patterns and economic importance. Classification, Systematic position, occurrence, structure and life cycle of following genera : *Nostoc*, *Gloeocapsa*, *Volvox*, *Oedogonium*, *Vaucheria*, *Chara*, *Ectocarpus*, *Polysiphonia*.

UNIT -V

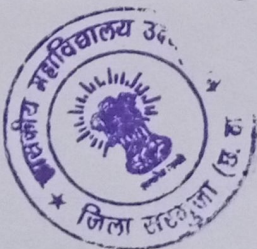
Lichens- General account, types, structure, nutrition, reproduction and economic importance. Mycoplasma: Structure and importance. Blue Green Algae (BGA) in nitrogen economy of soil and reclamation of Ushar land. Mushroom Biotechnology

Books Recommended:

Dubey R.C. and Maheshwari D.K. *A text book of Microbiology*, S. Chand Publishing, New Delhi

Presscott, L. Harley, J. and Klein, D. *Microbiology*, 7th edition, Tata Mc Graw-Hill Co. New Delhi.

Sharma P.D., *Microbiology and Plant pathology*, Rastogi Publication. New Delhi.



Alexopolous, C.J. Mims, C.W. and Blackwell, MM. *Introduction to Mycology*, John Wiley & Sons.

Dubey H.C. *An Introduction to Fungi*, Vikas Publishing, New Delhi

Mehrotra R.S. & Agrawal A., *Plant Pathology*, Tata McGraw, New Delhi

Sharma P.D. *Plant Pathology*, Rastogi Publishers, Meerut.

Srivastava, H.N. *Fungi*, Pradeep Publications, Jalandhar

Webster, J. & Weber, R. *Introduction to Fungi*, Cambridge University Press, Cambridge

Kumar H.D. *Introduction to phycology*, Aff. East-west Press, New Delhi

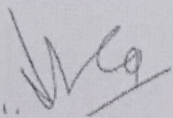
Lee RE, *Phycology*, Cambridge University Press U.K.

Srivastava, H.N., *Algae*, Pradeep Publications, Jalandhar

Pandey S.K. Quick *Concept of Botany*, Lambert Academic publishing, Germany

Pandey S.N., Mishra S.P. & Trivedi P.S. *A Text Book of Botany* (Vol.-I), Vikas Publishing, New Delhi

Singh, Pandey and Jain, *A Text book of Botany*, Rastogi Publication, Meerut.

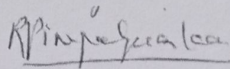


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Raipur, (C.G.)

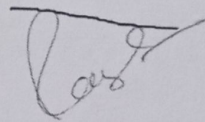


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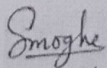


(Dr. Ranjana Shrivastava)

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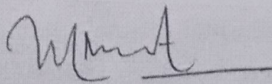
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Raipur, (C.G.)



(Mrs. Sanchal Moghe)

Govt. Bilasa Girls College, Bilaspur



(Mr. Shivakant Mishra)

(Mr Sudheer Tiwari)



B.Sc.-I (BOTANY) PAPER –II
(BRYOPHYTES, PTERIDOPHYTES, GYMNOSPERMS AND
PALAEOBOTANY)

UNIT –I

BRYOPHYTA: General characteristics, affinities, range of thallus organization, general classification and economic & ecological importance, Systematic position, occurrence, morphology anatomy and reproductive structure in *Riccia*, *Marchantia*, *Pellia*, *Anthoceros*, *Funaria*. Vegetative reproduction in Bryophytes, Evolution of sporophytes.

UNIT-II

PTERIDOPHYTES: General characteristics, affinities, economic importance and classification, Heterospory and seed habit, stellar system in Pteridophytes, Aposory and apogamy, Telome theory, *Azolla* as Biofertilizer.

UNIT-III

Systematic position, occurrence. Morphology, anatomy and reproductive structure of *Psilotum*, *Lycopodium*, *selaginella*, *Equisetum*, *Marsilea*.

UNIT-IV

Gymnosperm: General characteristics, affinities, economic importance and classification, Morphology, anatomy and reproduction in *Cycas*, *Pinus* and *Ephedra*.

UNIT-V

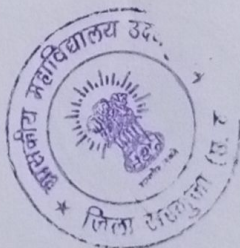
PALAEOBOTANY: Geological time scale, types of fossils and fossilization, Rhynia, study of some fossil gymnosperms. *Lygenopteris*

Books Recommended:

Parihar, N.S. *The Biology and Morphology of Pteridophytes*, Central Book Depot, Allahabad.

Parihar, N.S. *An introduction to Bryophyta Vol.I: Bryophytes* Central Book Depot, Allahabad.

Sambamurthy, AVSS, *A textbook of Bryophytes, Pteridophytes, Gymnosperms and Palaeobotany*, IK International Publishers.



Pandey SN, Mishra SP and Trivedi PS *A text Book of Botany (Vol.II)*, Vikas Publishing, New Delhi

Bhatanagar, SP and Moitra, A. *Gymnosperm*, New Age International (P) Ltd., Publishers, New Delhi

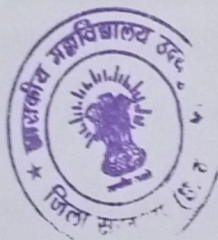
Biswas C. and Johri BM, *The Gymnosperms*, Springer-Verlag, Germany.

Srivastava, HN, *Palaeobotany*, Pradeep Publications Jalandhar

Srivastava, HN, *Bryophyta*, Pradeep Publications Jalandhar

Singh, Pandey and Jain, *A Text Book of Botany*, Rastogi Publication, Meerut

Srivastava, HN, *Fundamentals of Pteridophytes*, Pradeep Publications, Jalandhar



B.Sc. I (BOTANY)

PRACTICAL

Study of external (Morphological) and internal (microscopic/anatomical) features of representative genera given in the theory.

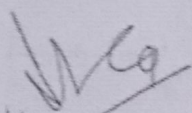
1. Algae: Gloeocapsa, Scytonema, Gloeotrichia, Volvox, Oedogonium, Vaucheria, Chara, Ectocarpus, Sargassum, Batrachospermum
2. Gram staining
3. Fungi: Albugo, Aspergillus, Peziza, Agaricus, Puccinia, Alternaria and Cercospora
4. Bryophyta: Riccia, Marchantia, Peltia, Anthoceros, Sphagnum, Funaria
5. Pteridophyta: Lycopodium, Selaginella, Equisetum, Marsilea.
6. Gymnosperm: Cycas, Pinus, Ephedra.

PRACTICAL SCHEME

TIME: 4 Hrs.

M.M. : 50

1. Algae/Fungi/Gram Staining	10
2. Bryophyta/Pteridophyta	10
3. Gymnosperm	10
4. Spotting	10
5. Viva-Voce	05
6. Sessional	05

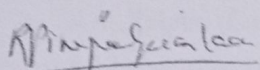


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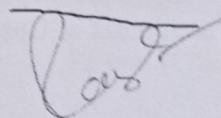


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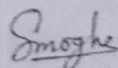


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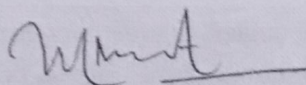
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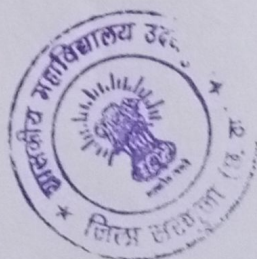
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(Mr. Shivakant Mishra)

(Mr. Sudheer Tiwari)



B.Sc.-II (BOTANY) PAPER-I

(PLANT TAXONOMY, ECONOMIC BOTANY, PLANT ANATOMY AND EMBRYOLOGY)

UNIT-I

Bentham and Hooker system of classification. Binomial Nomenclature, International Code of Nomenclature for Algae, Fungi, and plants (IUCN), Typification, numerical Taxonomy and chemotaxonomy. Preservation of Plant material and Herbarium techniques. Important botanical gardens and herbaria of India, Kew Botanical garden, England.

UNIT-II

Systematic position, distinguishing characters and economic importance of the following families, Ranunculaceae, Magnoliaceae, Brassicaceae, Rosaceae, Papaveraceae, Caryophyllaceae, Rutaceae, Cucurbitaceae, Apiaceae, Rubiaceae, Apocynaceae, Asclepiadaceae, Solanaceae, Malvaceae, Convolvulaceae, Orchidaceae, Acanthaceae, verbenaceae, Lamiaceae, Asteraceae, Fabaceae, Euphorbiaceae, Poaceae and Liliaceae.

UNIT-III

Economic Botany: Botanical name, family, part used and uses of the following economically important plants, fiber yielding plants; Cotton, jute, sun, hemp, coir. Timber yielding plants: Sal, Teak, Shisham and Pine. Medicinal plants: Kalmegh, Ashwangandha, Ghritkumari, Giloy, Brahmi, sargandha, ---of medicinal plants of C.G. Food plants: Pearl millet, Buck of wheat, Sorghum, Soyabean, gram, Ground nut, Sugarcane and Potato. Fruit plants: Pear, Peach, Litchi. Spices: Cinnamon, Turmeric, Ginger, Asafoetida and Cumin. Beverages : Tea, Coffee Rubber Cultivation of important flowers: Chrysanthemum, Dahelia, Biodiesel plants Jatropha, Pongamia Ethnobotany in context of Chhattisgarh.

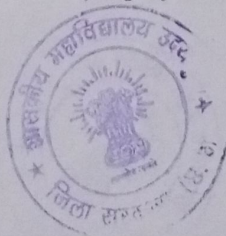
UNIT-IV

Plant Anatomy: Root and shoot apical meristems theories of root and shoot apex organization, permanent tissues, anatomy of root, stem and leaf of dicot and monocot, secondary growth in root and stem, Anatomical anomalies in the primary structure of stems (Nyctanthes, Boerhaavia, Casuarina), Anamolous secondary growth in Dracaena, Bignonia, Laptadenia.

UNIT-V

Embryology: Flower as a reproductive organ, anther, microsporogenesis, types of ovules, megasporogenesis, development of male and female gametophyte, pollination, mechanisms, self incompatibility, fertilization, endosperm, embryo, polyembryonoy, apomixes and parthenocarp.

Books Recommended:



Singh, Pandey, Jain. *Diversity and Systematics of Seed Plants*, Rastogi Publications Merrut

Sharma OP, *Plant Taxonomy*, Tata Mc Graw Hill, New Delhi

Pandey BP, *Taxonomy of Angiosperms*, S. Chand Publishing, New Delhi

Pandey, BP, *Plant Anatomy*, S.Chand Publishing, New Delhi

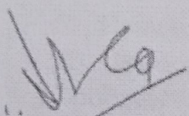
Pandey, BP, *Economic Botany*, S.Chand Publishing, New Delhi

Bhojwani, SS and Bhatanagar SP, *Embryology of Angiosperm*, Vikas Publication House, New Delhi

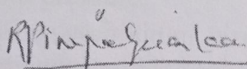
Singh, Pandey, Jain, *Embryology of Angiosperms*, Rastogi Publication, Meerut

Sharma, V, Alum, A. *Ethnobotany*, Rastogi Publications, Meerut

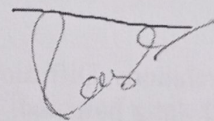
Tayal, MS *Plant Anatomy*, Rastogi Publication, Meerut



(Dr. J.N. Verma)



(Dr. Rekha Pimpalgaonkar)



(Dr. Ranjana Shrivastava)

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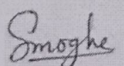
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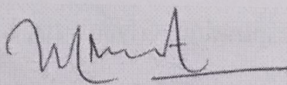
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(Mr. Shivakant Mishra)

(Mr. Sudheer Tiwari)

Govt. Bilasa Girls College, Bilaspur



Singh
Ch

B.Sc.-II (BOTANY) PAPER-II (ECOLOGY AND PLANT PHYSIOLOGY)

UNIT-I

Introduction and scope of ecology, environmental and ecological factors, Soil formation and soil profile, Liebig's law of minimum, Shelford's law of tolerance, morphological and anatomical adaptations in hydrophytes, xerophytes and epiphytes.

UNIT-II

Population and community characteristics, Raunkiaer's life forms, population interactions (e.g. Symbiosis, Amensalism etc.), succession, ecotone and edge effect, ecological niches, ecotypes, ecads, keystone species

Concept of ecosystem, trophic levels, flow of energy in ecosystem, food chain and food web, concept of ecological pyramids

Biogeochemical cycles: carbon cycle, nitrogen cycle and phosphorus cycle

UNIT-III

Plant water relations: Diffusion, permeability, osmosis, imbibitions, plasmolysis, osmotic potential and water potential, Types of soil water, water holding capacity, wilting, Absorption of water, theories of Ascent of sap, Mineral nutrition and absorption, Deficiency symptoms, Transpiration, stomatal movement, significance of transpiration, Factors affecting transpiration, guttation.

UNIT-IV

Photosynthesis: Photosynthetic apparatus and pigments, light reaction mechanism of ATP synthesis. C₃, C₄ CAM pathway of carbon reduction, photorespiration, factors affecting photosynthesis.

Respiration: Aerobic and anaerobic respiration, Glycolysis, Krebs's cycle, factors affecting respiration, R.Q.

UNIT-V

Plant growth hormones: Auxin, Gibberellin, Cytokinin, Ethylene and Abscissic acid. Physiology of flowering, Florigen concept, Photoperiodism and Vernalization. Seed dormancy and germination, plant movement.

Books Recommended:

Koromondy, E.J. *Concepts of Ecology*, Prentice Hall, USA



Singh, JS Singh SP and Gupta SR. *Ecology and Environmental Science and Conservation*, S. Chand Publishing, New Delhi

Sharma, PD. *Ecology and Environment*, Rastogi Publications, Meerut

Hopkins, WG and Huner, PA. *Introduction to Plant Physiology*, John Wiley and Sons.

Pandey SN and Sinha BK, *Plant Physiology*, Vikas Publishing, New Delhi

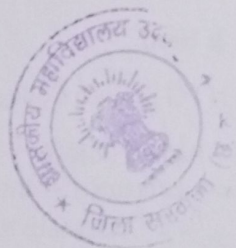
Taiz, L and Zeiger. E. *Plant Physiology*, 5th edition, Sinauer Associates Inc. M.A, USA

Srivastava, HS *Plant Physiology and Biotechnology*, Rastogi Publications, Meerut

B.Sc. II (BOTANY)

Practical

1. Taxonomy: Detailed description and identification of locally available plants of the families as prescribed in the theory paper.
2. Economic Botany: Identification and comment on the plants and plant products belonging to different economic use categories
3. Preparation of Herbarium of local wild plants.
4. Quantitative vegetation analysis of a grassland ecosystem.
5. Anatomical characteristics of hydrophytes and xerophytes.
6. Demonstration of root pressure.
7. Demonstration of transpiration.
8. Demonstration of evolution of O₂ in photosynthesis, factors affecting of photosynthesis.
9. Comparison of R.Q. of different respiratory substrates.
10. Demonstration of fermentation.
11. Determination of BOD of a water body.
12. Demonstration of mitosis.

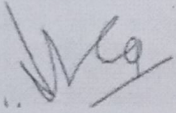


PRACTICAL SCHEME

TIME: 4 Hrs.

M.M. : 50

1.	Anatomy	08
2.	Economic Botany	04
3.	Physiology	08
4.	Ecology	10
5.	Spotting	10
6.	Viva-Voce	05
7.	Project Work/ Field Study	10

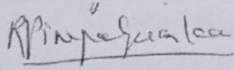


(Dr. J.N. Verma

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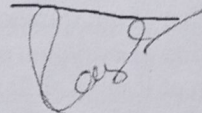


(Dr. Rekha Pimpalgaonkar)

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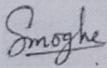


(Dr.Ranjana Shrivastava)

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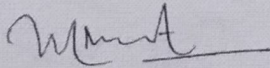
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(Mr. Shivakant Mishra)

(Mr Sudheer Tiwari)



B.SC.-III (BOTANY) PAPER –I
**(ANALYTICAL TECHNOLOGY PLANT PATHOLOGY,
EXPERIMENTAL EMBRYOLOGY, ELEMENTARY BIostatISTICS,
ENVIRONMENTAL POLLUTION AND CONSERVATION)**

UNIT-I

Structure, Principle and applications of analytical instrumentation.

Chromatography technique, Oven, Incubator, Autoclave, Centrifuge, Spectrophotometer

UNIT-II

Plant Tissue culture techniques, growth media, totipotency, protoplast culture, somatic hybrids and cybrids, micropropagation, somaclonal variations, haploid culture.

Analytical techniques: Microscopy-Light microscope, Electron microscope

UNIT-III

General principles of plant pathology, general symptoms of fungal, bacterial and viral diseases, mode of infection, diseases resistance and control measures, plant quarantine. A study of epidemiology and etiology of following plant diseases.

Rust diseases of wheat, Tikka diseases of groundnut, Red rot of sugarcane, Bacterial blight of rice, Yellow vein mosaic of brinjal, Little leaf of brinjal.

UNIT-IV

Introduction to pollution, greenhouse gases, Ozone depletion, Dissolved oxygen, B.O.D., C.O.D.

Bio magnification, Eutrophication, Acid precipitation, Phytoremediation, Plant indicators, Biogeographical Zones of India, Concept of biodiversity, CBD, MAB, National parks and



biodiversity Hot spots, Conservation strategies, Red Data Book, IUCN threat categories, invasive species, endemic species, concept of sustainable development.

UNIT-V

ELEMENTARY BIOSTATISTICS:

Introduction and application of Biostatistics, measure of central tendency-Mean, Median, Mode, measures of dispersal-Standard deviation, standard error.

Books Recommended:

Singh, RS, *Plant Diseases*, Oxford & IBH, New Delhi.

Pandey, BP, *Plant Pathology*, S.Chand Publishing, New Delhi

Sharma, PD, *Microbiology and Plant pathology*, Rastogi Publications, Meerut

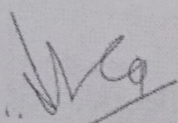
Sharma PD, *Mycology and Phytopathology*, Rastogi Publications, Meerut

Singh JS, Singh SP and Gupta, SR, *Ecology Environmental Science and Conservation*, S. Chand Publishing, New Delhi

Sharma, PD. *Ecology and Environment*, Rastogi Publications, Meerut

Bhojwani, SS and Razdan, MK, *Plant Tissue Culture: Theory and Practices*, Elsevier

Sharma AK, *Text book of Biostatistics*, Discovery Publishing House Pvt. Ltd.

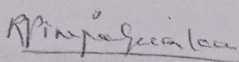


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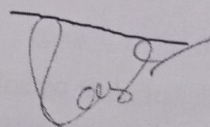


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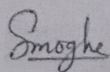


(Dr.Ranjana Shrivastava)

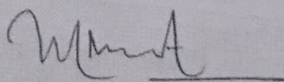
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B.Sc.-III (BOTANY) PAPER -II
(GENETICS, MOLECULAR BIOLOGY, BIOTECHNOLOGY AND
BIOCHEMISTRY)

UNIT-I

Cell and cell organelles, organization and morphology of chromosomes, giant chromosomes, cell division, Mendel's laws, gene interactions, linkage and crossing over, chromosomal aberration, polyploidy, sex linked inheritance, sex determination, cytoplasmic inheritance, gene concept: cistron, muton, recon.

UNIT-II

Nucleic acids, structure and forms of DNA and RNA, DNA/RNA as genetic material, replication of DNA, biochemical and molecular basis of mutation, genetic code and its properties, mechanism of transcription and translation in prokaryotes, regulation of gene expression, Operon model.

UNIT-III

Recombinant DNA, Enzymes in recombinant DNA technology, cloning vectors (Plasmid, Bacteriophages, Cosmids, Phagemids), gene cloning, PCR, Application of Biotechnology; G.M.Plants, Monoclonal antibodies, DNA finger printing

UNIT-IV

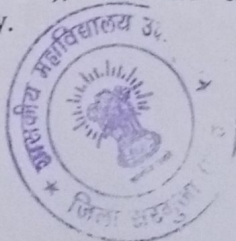
Protein: Chemical composition, primary, secondary and tertiary structure of Proteins.

Carbohydrate: general account of monosaccharides, disaccharids and Polysaccharides

Fat: Structure and properties of fats and fatty acids, synthesis and breakdown.

UNIT-V

ENZYMES: Nomenclature and classification, components of enzyme, theories of enzyme action, enzyme kinetics (Michaelis-Menten constant), allosteric enzymes, isozymes, Abzymes. Ribozymes, factors affecting enzyme activity.



Books Recommended:

Nelson, DL, Cox, MM, Lehninger *Principles of Biochemistry*, W.H. freeman and Company, New York, USA.

Cooper, GM, *The Cell: A Molecular Approach*, ASM Press & Sunderland, Washington, D.C. Sinauer Associates, MA.

Singh BD, *Fundamental of Genetics*, Kalyani Publication

Singh BD, *Genetics*, Kalyani Publication

Gupta, PK, *Cell and Molecular Biology*, Rastogi Publications, Meerut

Singh, BD, *Biotechnology: Expanding Horizons*, Kalyani publications

Gupta, PK, *Elements of Plant Biotechnology*, Rastogi Publications, Meerut

Gupta, SN, *Concepts of Biochemistry*, Rastogi Publications, Meeru

Jain, JL., Jain S, Jain, N, *Fundamentals of Biochemistry*, S Chand Publishing, New Delhi

B.Sc.-III (Botany)

Practical

1. Study of host parasite relationship pf plant diseases listed above.
2. Demonstration of preparation of Czapek's Dox medium and Potato dextrose agar medium, sterilization of culture medium and pouring.
3. Inoculation in culture tubes and petriplates.
4. Gram Staining.
5. Microscopic examination of Curd.
6. Study of plant diseases as listed in the theory paper.
7. Biochemical test of carbohydrate and protein.
8. Instrumentation techniques

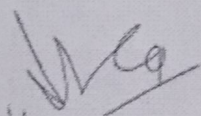


PRACTICAL SCHEME

TIME: 4 Hrs.

M.M. : 50

1.	Plant Disease/Symptoms	10
2.	Instrumentation techniques	05
3.	Staining of Microbes	05
4.	Tissue Culture techniques	05
5.	Spotting	10
6.	Project Work/ Field Study	05
5.	Viva-Voce	05
6.	Sessional	05

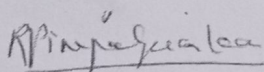


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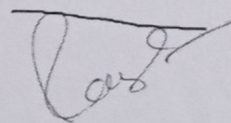
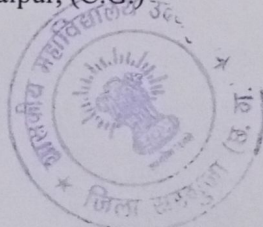


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Raipur, (C.G.)

Zoology
B.Sc. Part I 2018-19
Paper I
(Cell Biology and Non-chordata)

Unit:I

1. The cell (Prokaryotic and Eukaryotic)
2. Organization of Cell: Extra-nuclear and nuclear Plasma membrane, Mitochondria, Endoplasmic reticulum, Golgi body, Ribosome and Lysosome).
3. Nucleus, Chromosomes, DNA and RNA

Unit:II

1. Cell division (Mitosis and Meiosis).
2. An elementary idea of Cancer cells And Cell transformation.
3. An elementary idea of Immunity: Innate & Acquired Immunity, Lymphoid organs, Cells of Immune System, Antigen, antibody and their interactions

Unit:III

- General characters and classification of Phylum Protozoa, Porifera, and Coelenterata up to order.
- 2. Protozoa: Type study - Paramecium,
- 2. Porifera: Type study - Sycon.
- 3. Coelenterata: Type study - Obelia

Unit: IV

- General characters and classification of Phylum Platyhelminthes, Nematelminthes, Annelida and Arthropoda up to order.
- 2. Platyhelminthes and Nematelminthes: Type Study – Fasciola, Ascaris
- 3. Annelida: Type Study - Pheretima.
- 4. Arthropoda: Type Study - Palaemone.

Unit:V

- General characters and classification of Phylum Mollusca and Echinodermata up to order.
- 2. Mollusca: Type Study - Pila.
- 3. Echinodermata- Type Study- Asterias (Starfish).



Zoology
B.Sc. Part I 2018-19
Paper II
(Chordata and Embryology)

Unit:I

1. Classification of Hemichordata
2. Hemichordata- Type study-Balanoglossus
3. Classification of Chordates upto orders..
4. Protochordata-Type study - Amphioxus.
5. A comparative account of Petromyzon and Myxine.

Unit-II

1. Fishes-Skin & Scales, migration in fishes, Parental care in fish.
2. Amphibia-Parental care and Neoteny.
3. Reptilia- Poisonous & Non-poisonous Snakes, Poison apparatus, snake venom and Extinct Reptiles

Unit-:III

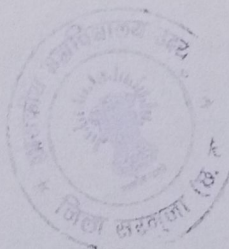
1. Birds- Flight Adaptation, Migration, and Perching mechanism, Discuss-Birds are glorified reptiles.
2. Mammals-Comparative account of Prototheria, Metatheria, Eutheria and Affinities.
3. Aquatic Mammals and their adaptations.

Unit:IV

1. **Fertilization**
2. Gametogenesis, Structure of gamete and Types of eggs
3. Cleavage
4. Development of Frog up to formation of three germ layers.
5. Parthenogenesis

Unit:V

1. Embryonic induction, Differentiation and Regeneration.
2. Development of Chick (a) up to formation of three germ layers, (2) Extra-embryonic membranes.
3. Placenta in mammals.



Zoology
B.Sc. Part I 2018-19
Practical

The practical work will, in general be based on the syllabus prescribed in theory and the candidates will be required to show knowledge of the following:-

- Dissection of Earthworm, Cockroach, Palaemon and Pila
- Minor dissection—appendages of Prawn & hastate plate, mouth parts of insects, radulla of Pila.

(Alternative methods: By Clay/Thermacol/drawing/Model etc.)

- Adaptive characters of Aquatic, terrestrial, aerial and desert animals.
- Museum specimen invertebrate
- Slides- Invertebrates, frog embryology, Chick embryology and cytology,

Scheme of Practical Exam

Time: 3hrs

1. Major Dissection	10 Marks
2. Minor Dissection	05 Marks
3. Comments on Excercise based on Adaptation	04 Marks
4. Cytological Preparation	05 Marks
5. Spots-8 (Slides-4, Specimens-4)	16 Marks
6. Sessional	10 Marks



Zoology
B.Sc. Part – II 2018-19
Paper – I
(Anatomy and Physiology)

Comparative Anatomy of various organ systems of vertebrates:

Unit: I

- Integument and its derivatives: structure of scales, hair and feathers
- Alimentary canal and digestive glands in vertebrates
- Respiratory organs : Gills and lung , air-sac in birds

Unit: II

- Endoskeleton: (a) Axial Skeleton- Skull and Vertebrae, (b) Appendicular Skeleton Limbs and girdles
- Circulatory System: Evolution of heart and aortic arches
- Urinogenital System: Kidney and excretory ducts

Unit: III

- Nervous System: General plan of brain and spinal cord
- Ear and Eye: structure and function
- Gonads and genital ducts

Unit: IV

- Digestion and absorption of dietary components
- Physiology of heart, cardiac cycle and ECG
- Blood Coagulation
- Respiration: mechanism and control of breathing

Unit: V

- Excretion: Physiology of excretion, osmoregulation
- Physiology of muscle contraction
- Physiology of nerve impulse, Synaptic transmission



Zoology
B.Sc. Part – II 2018-19

Paper-II
**VERTEBRATE ENDOCRINOLOGY, REPRODUCTIVE BIOLOGY
BEHAVIOUR, EVOLUTION AND APPLIED ZOOLOGY**

Unit: I

- Structure and function of Endocrine glands
- Hormone receptor
- Biosynthesis and secretion of thyroid, adrenal, ovarian and testicular hormones
- Endocrine disorder of pituitary, thyroid, adrenal and pancreas

Unit:II

- Reproductive cycle in vertebrates
- Menstruation, lactation and pregnancy
- Mechanism of parturition
- Hormonal regulation of gametogenesis

Unit: III

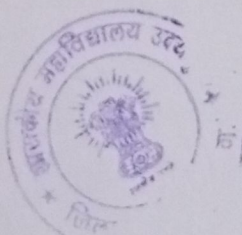
- Evidences of organic evolution.
- Theories of organic evolution.
- Variation, Mutation, Isolation and Natural selection.
- Evolution of Horse

Unit:IV

- Introduction to Ethology: Branches and concept of ethology.
- Patterns of Behaviour, Taxes, Reflexes, Drives and Stereotyped behaviour.
- Reproductive behavioural patterns.
- Drugs and behavior, Hormones and behaviour

Unit:V

- Prawn Culture
- Sericulture
- Apiculture
- Pisciculture
- Poultry keeping
- Elements of Pest Control: Chemical & Biological Control



Zoology
B.Sc. Part II 2018-19
Practical

The practical work in general shall be based on the syllabus prescribed and the students will be required to show the knowledge of the following:

- Study of the representative examples of the different chordates (Classified characters).
- Dissection of various systems of scoliodon-Afferent and Efferent branchial cranial nerves, internal ear.

Alternative methods: By Clay/Thermacol/ Drawing/ Model etc.)

- Simple microscopic technique through unstained or stained permanent mount.
- Study of prepared slides histological, as per theory papers.
- Study of limb girdles and vertebrae of Frog, Varanus, Fowl and Rabbit.
- Identification of species and individual of honey bee.
- Life cycle of honey bee and silkworm.
- Exercise based on Evolution and Animal behavior.

Scheme of Practical Exam

Time: 3:30hrs

• Major dissection (Cranial nerves/efferent branchial vessel)	10
• Exercise based on evolution	05
• Exercise based on applied zoology	05
• Exercise based on animal behavior	04
• Spotting-8 (slides-4,bones-2,specimen-2)	16
• Viva	05
• Sessional marks.	05



Zoology
B.Sc. Part III 2018-19

Paper-I

**ECOLOGY, ENVIRONMENTAL BIOLOGY: TOXICOLOGY,
MICROBIOLOGY AND MEDICAL ZOOLOGY**

Unit: I (Ecology)

- Aims and scopes of ecology
- Major ecosystems of the world-Brief introduction
- Population- Characteristics and regulation of densities
- Communities and ecosystem
- Bio-geo chemical cycles
- Air & water pollution
- Ecological succession

Unit: II (Environmental Biology)

- Laws of limiting factor
- Food chain in fresh water ecosystem
- Energy flow in ecosystem- Trophic levels
- Conservation of natural resources
- Environmental impact assessment

Unit: III (Toxicology)

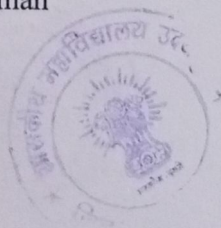
- Definition and classification of Toxicants
- Basic Concept of toxicology
- Principal of systematic toxicology
- Heavy metal Toxicity (Arsenic, Murcury, Lead, Cadmium)
- Animal poisons- snake venom, scorpion & bee poisoning
- Food poisoning

Unit: IV (Microbiology)

- General and applied microbiology
- Microbiology of domestic water and sewage
- Microbiology of milk & milk products
- Industrial microbiology: fermentation process, production of penicillin, alcoholic breverages, bioleaching.

Unit: V (Medical Zoology)

- Brief introduction to pathogenic microorganisms, Ricketssia, Spirochaetes, AIDS and Typhoid
- Brief account of life history & pathogenicity of the following pathogens with reference to man: prophylaxis & treatment
- Pathogenic protozoan's- Entamoeba, Trypanosome & Plasmodium
- Pathogenic helminthes- Schistosoma
- Nematode pathogenic parasites of man
- Vector insects



Zoology
B.Sc. Part III 2018-19
Paper II

GENETICS, CELL PHYSIOLOGY, BIOCHEMISTRY, BIOTECHNOLOGY AND
BIOTECHNIQUES

Unit: I (Genetics)

- Linkage & linkage maps, Sex Determination and Sex Linkage
- Gene interaction- Incomplete dominance & Codominance, Supplementary gene, Complementary gene, Epistasis Lethal gene, Pleiotropic gene and multiple alleles.
- Mutation: Gene and chromosomal mutation
- Human genetics: chromosomal alteration: Down, Edward, Patau, Turner and Klinefelter Syndrome Single gene disorders: Alkaptonuria, Phenylketonuria, Sickle cell anemia, albinism and colour blindness

Unit: II (Cell Physiology)

- General idea about pH & buffer
- Transport across membrane: Diffusion and Osmosis
- Active transport in mitochondria & endoplasmic reticulum
- Enzymes-classification and Action

Unit: III (Biochemistry)

- Amino acids & peptides- Basic structure & biological function
- Carbohydrates & its metabolism- Glycogenesis; Gluconeogenesis; Glycolysis; Glycogenolysis; Cose-cycle
- Lipid metabolism- Oxidation of glycerol; Oxidation of fatty acids
- Protein Catabolism- Deamination, transamination, transmethylation

Unit: IV (Biotechnology)

- Application of Biotechnology
- Recombinant DNA & Gene cloning
- Cloned genes & other tools of biotechnology (Tissue culture, Hybridoma, Transgenic Animals and Gene library)

Unit: V (Biotechniques)

1. Principles & techniques about the following:

- (i) pH meter
- (ii) Colorimeter
- (iii) Microscopy- Light microscopes: Compound, Phase contrast & Electron microscopes
- (iv) Centrifuge
- (v) Separation of biomolecules by chromatography & electrophoresis



B. Sc. Part III 2018-19

Zoology Practical

The practical work in general shall be based on syllabus prescribed in theory.

The candidates will be required to show knowledge of the following:

- Estimation of population density, percentage frequency, relative density.
- Analysis of producers and consumers in grassland.
- Detection of gram-negative and gram-positive bacteria.
- Blood group detection (A,B,AB,O)
- R. B. C. and W.B.C count
- Blood coagulation time
- Preparation of hematin crystals from blood of rat
- Observation of Drosophila, wild and mutant.
- Chromatography-Paper or gel.
- Colorimetric estimation of Protein.
- Mitosis in onion root tip.
- Biochemical detection of Carbohydrate, Protein and Lipid.
- Study of permanent slides of parasites, based on theory paper.
- Working principles of pH meter, colorimeter, centrifuge and microscope.

Scheme of marks distribution

Time: 3:30hrs

• Hematological Experiment	08
• Ecological Experiment: Grassland Ecosystem/ Population Density/Frequency/relative density	06
• Bacterial staining	05
• Biochemical experiment	06
• Practical based on Instrumentation (Chromatography/ pH meter/microscope/centrifuge.	05
• Spotting (5 spots)	10
7 Viva	05
8. Sessional	05



MICROBIOLOGY

BSc-1st

Paper- I: General Microbiology & Basic Technique

UNIT-1: Fundamental, History & Developments

Introduction to major groups of microorganisms and fields of Microbiology; Historical development, Contributions of Pioneers (Louis Pasteur, Edward Jenner, Anton Von Leewenhoeck and Alexander Flemming). Beneficial and harmful microbes and its role in daily life.

UNIT-2: Basic Microbial Techniques

Methods of studying microorganism; Sterilization Techniques (Physical & Chemical Sterilization). Pure culture isolation Technique: Streaking, Waksman serial dilution and plating methods. cultivation, maintenance and preservation of pure cultures. Culture media & conditions for microbial growth. Staining technique: simple staining, Differential (gram staining), negative staining and acid fast staining.

UNIT-3: Virology & Bacteriology

Diversity of microbial world; Principle and classification of Viruses and Bacteria. Structure, Multiplication and Economic importance of viruses (TMV, Influenza virus & T₄-Phage). Structure & Functional organization of Bacteria, Cell wall of Gram Positive & Gram Negative bacteria; Economic importance of Bacteria.

UNIT-4: Mycology

General characteristics and classification of Fungi; Structure and Reproduction of fungi (*Rhizopus*, *Penicillium*, *Aspergillus*, *Yeast* & *Agaricus*). Common fungal disease of crops (Late & Early blight of potato, Smut of Rice, Tikka and Red rot of Sugarcane). Structure, reproduction and economic aspect of Lichens.

UNIT-5: Phycology & Protozoology

General characteristics and classification of Algae and Protozoa; General account & economic importance of Cyanobacteria (*Microcystis*, *Ocillatoria*, *Nostoc* & *Anabaena*) and Protozoa (*Amoeba*, *Paramoecium*, *Euglena* and *plasmodium*).

Text Books Recommended:

1. General microbiology; Vol I & II, Powar C. B. and Daginawala H. I., Himalaypub.house, Bombay.
2. A textbook of Microbiology; Dubey & Maheshwari.
3. Microbiology: An Introduction; G. Tor tora, B. Funke, C. Benjamin Cummings.
4. General Microbiology; Seventh edition by Hans G Schlegel, Cambridge University Press.
5. Practical Microbiology; Dubey and Maheshwari.
6. Handbook of Microbiology; Bisen P.S., Varma K., CBS Publishers and Distributors, Delhi. General Microbiology by Brock.
7. General Microbiology by Pelzar et al.
8. Introduction on Microbial Techniques by Gunasekaran.

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Paper- II: Biochemistry and Physiology

UNIT-1: CARBOHYDRATES AND PROTEINS

Structure, classification and properties of Carbohydrates – Monosaccharide, Oligosaccharides (Disaccharides) and Polysaccharides. Structure, classification and properties of Protein - Amino acids, peptides and Proteins (Primary, Secondary, Tertiary and Quaternary structure).

UNIT-2: LIPIDS AND NUCLEIC ACIDS

Structure, classification and properties of Lipids; Saturated and Unsaturated fatty acids. Structure and properties of Nucleotides. Structure and forms of DNA; Replication of DNA. Types, Structure and Function of RNA.

UNIT-3: ENZYMES

Structure, Nomenclature, Classification and Properties of Enzymes. Mechanism of enzyme action, Enzyme kinetic: Michaelis-Menten. Equation & derivation, Enzyme inhibition, Lineweaver-Burk Plot (LB plot). Co-enzymes and their role; Allosteric enzymes and Isoenzyme. Extracellular enzymes and their role.

UNIT-4: MICROBIAL METABOLISM

Bacterial photosynthesis and Chemosynthesis: Glycolysis, TCA cycle and Oxidative Phosphorylation. Anaerobic catabolism of glucose; Fat Biosynthesis, alpha and beta oxidation of fatty acids. Deamination, trans-amination and Urea cycle.

UNIT-5: GROWTH PHYSIOLOGY & TRANSPORT SYSTEM

Bacterial cell division, Genome replication and Growth Phases, Conditions for growth. Plasma membrane & Transport system, types of transport (Passive and active). Diffusion (simple & facilitated), Concept of Uniport, Antiport and Symport;

Text Books Recommended:

1. General Biochemistry by A.C. Deb.
2. Biochemistry by Lehninger (Kalyani publication)
3. Biochemistry by U. Satyanarayan.
4. Microbiology by Anantanarayan and Panikar.
5. Fundamentals of Biochemistry; J L Jain, Sunjay Jain, Nitin Jain; S. Chand & Company Ltd
6. Practical Biochemistry: Principles and Techniques; 5th Edition; Keith Wilson and John Walker
7. Biophysical Biochemistry: Principles and Techniques; Avinash Upadhyay, Kakoli Upadhyay and Nirmalendu Nath; Himalaya Publishing House.

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PRACTICAL

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- Basic information about autoclave, hot air oven, laminar air flow and other laboratory instruments
- Preparation of solid/liquid culture media.
- Isolation of single colonies on solid media.
- Enumeration of bacterial numbers by serial dilution and plating.
- Simple and differential staining.
- Measurement of microorganism (micrometry) and camera Lucida drawing of isolated organism.
- Determination of bacterial growth by optical density measurement.
- General and specific qualitative test for carbohydrates
- General and specific qualitative test for amino acids
- General and specific qualitative test for lipids
- Estimation of protein
- Estimation of blood glucose
- Assay of the activity of amylases
- Assay of the activity of Phosphates

Scheme of Practical Examination

Time - 4 hours

M.M. 50

1. Exercise on Microbiological methods	10
2. Exercise on Biochemical tests	10
3. Exercise on staining method	05
4. Spotting (1-5)	10
5. Viva-Voce	05
6. Sessional	10

Total 50

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MICROBIOLOGY

BSc-2nd

Paper- I: Molecular Biology and Genetic Engineering

UNIT-1: FUNDAMENTALS OF MOLECULAR BIOLOGY

History and scope of molecular biology, concept and mechanism of heredity. DNA as genetic material- experimental evidences. DNA replication- mechanism, process and enzymes/proteins involved in replication.

UNIT-2: CENTRAL DOGMA OF PROTEIN SYNTHESIS

Transcription- initiation, elongation, termination, RNA polymerases and sigma factor. Transcription inhibitors (antibiotics, drugs). Translation- initiation, elongation and termination. Factors involved in translation. Genetic code.

UNIT-3: MUTATION AND DNA REPAIR MECHANISM

Introduction and Types of Gene mutations- Base substitution, frame shift mutation (insertion, deletion, miss-sense, nonsense mutation.) mutagens – physical and chemical. Reverse mutation in bacteria. DNA repair mechanism (mismatch repair, photo-reactivation, excision and SOS repair). Beneficial and harmful effect of mutation.

UNIT-4: GENE REGULATION

Concept of gene- Cistron, Recon, Muton. Operon Concept- lac Operon, tryptophan Operon, His Operon. Activator, Co-activator and Repressor. Introduction to Bioinformatics- Elementary genome Database.

UNIT-5: GENETIC ENGINEERING

Basic concept of Genetic Engineering, DNA modifying enzymes Restriction endonuclease, DNA ligase, terminal transferase. Vectors- pBR322, pUC19, BAC and YAC. Phage based vectors, expression of vector. Transformation – physical and chemical method. Bacterial Host. Screening of recombinant vector Blue white Screening, Colony Hybridization.

Text Books Recommended:

1. Gene Cloning by T.A. Brown.
2. General Microbiology by Power and Daganawala.
3. Zinssers Microbiology by KJ Wolfgang, McGraw- HJill Company.
4. Microbial Genetics by RM Stanley, F David and EC John.
5. Bacteriological Techniques by FJ Baker.
6. Molecular Biology of the Cell; 3rd Edition; Bruce Alberts ,et.al; Garland Publishing.
7. Cell biology; C.B. Powar; Himalaya Publishing House; Fifth edition
8. Cell & Molecular Biology; Gerald Karp; Fourth edition
9. A Textbook of Microbiology; Dubey&Maheshwari; S.chand& Sons.
10. Cell biology & Genetics; P. K. Gupta
11. Introduction to Bioinformatics; T K Atwood and D J Parry-Smith; Pearson Education Ltd

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Paper- II: Bioinstrumentation and Biostatistics

UNIT-1: MICROSCOPY AND CENTRIFUGATION

Simple and compound light microscope, Bright field, Dark field, Phase contrast and Electron microscope. Centrifugation- principle and types of centrifuges (analytical and preparatory), types of centrifugation- differential and rate zonal centrifugation.

UNIT-2: pH metry and chromatography

Principle of pH meter, types of electrodes, factors affecting pH measurements, and application of pH meter. Chromatography- principle, types- paper, TLC and column chromatography, HPLC.

UNIT-3: SPECTROPHOTOMETRY

Electromagnetic spectrum, Beers-Lamberts law, Types (Principles, working and application)- colorimeter, UV - Vis Spectrophotometry and IR- Spectrophotometry, Turbidometry.

UNIT-4: Electrophoresis and X-Ray Diffraction

Principle of electrophoresis, instrumentation and Application, types of Paper, Gel electrophoresis and Immunoelectrophoresis. X-ray diffraction- principle and application.

UNIT-5: Biostatistics

Data- Types, characteristics, presentation and distribution. Data analysis- central tendency (Mean, Median and Mode), Deviation (variance SD and SE). Concept of probability.

Text Books Recommended:

1. Introduction to Instrumental analysis by Robert Braun.
2. Instrumental Techniques by Upadhyay and Upadhyay.
3. Instrumental Methods of Chemical Analysis by BK Sharma.
4. Bio statistics; Sunder Rao
5. Statistical Methods; S. P. Gupta; Sultan Chand & Sons

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PRACTICAL

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Determination of antibiotic resistance by plating method.
Assaying of microbial enzymes; Catalase, Proteases, Peroxidases,
Cellulase, Cellobioases, Amylase, Diastase.
Exercise on paper, thin layer, column chromatography.
Exercise on paper and gel electrophoresis.
determination of pH of various water and soil sample.
testing of lambert beer's law.
Determination of lamda max of dye by spectrophotometer
Isolation of resistant bacteria from soil and water sample

Scheme of Practical Examination

Time - 4 hours

M.M. 50

- | | |
|--|----|
| 1. Exercise on spectrophotometer/ pH meter | |
| 2. Exercise on chromatography | 10 |
| 3. Exercise on genetics | 10 |
| 4. Spotting (1-5) | 05 |
| 5. Viva-Voce | 10 |
| 6. Sessional | 05 |
| | 10 |

Total 50

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MICROBIOLOGY

BSc-3rd

Paper- I: Medical Microbiology and Immunology

UNIT-1: AIR BORNE DISEASES

Air borne diseases: Types- Tuberculosis, Pertussis, Diphtheria, Influenza, Small & Chicken pox, Mumps, Measles. Symptoms, treatment and prevention.

UNIT-2: WATER BORNE DISEASES

Concept and cause of water borne diseases; Types, Hepatitis, Dysentery, Diarrhea, Cholera, typhoid. Symptoms, treatment and prevention.

UNIT-3: CLINICAL DISEASE AND DIAGNOSIS

Clinical diseases: Diabetes, Asthma, multiple sclerosis, rheumatoid arthritis, cancer. Symptoms, Treatment and prevention.

UNIT-4: BASIC CONCEPT OF IMMUNITY

Immune system: Structure and function of the cells, tissues and organs of immune system. Types of immunity- humoral and cell-mediated, innate, acquired immunity. **Antigen- Antibody:** types, properties. Hapten, adjuvants, Immuno-globulins: Structure types, Properties and their function - Theory of antibody production.

UNIT-5: IMMUNO DISEASE DIAGNOSIS

Methods based on Ag-Ab interaction- precipitation, agglutination, ELISA, RIA, Immuno-electrophoresis, PCR based diagnosis method for infectious diseases.

Text Books Recommended:

1. Immunology: Kuby.
2. General Microbiology by Power and Daganwala.
3. Zinssers Microbiology by K. J Wolfgang, McGraw- Hill Company.
4. Medical Microbiology; N. C. Dey and T.K. Dey, Allied agency, Calcutta.
5. Bacteriological Techniques by FJ Baker.
6. A Textbook of Microbiology; Dubey & Maheshwari; S. chand & Sons.
7. Scott's Diagnostic Microbiology by EJ Baron.

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Paper- II: Environmental, industrial and Agricultural Microbiology

UNIT-1: AIR MICROBIOLOGY

Basics of Aerobiology, Microbes in atmosphere, source of microorganism in air, droplet nuclei, infectious dust, and bio-aerosol. Factors affecting microbial survival in the air. Sampling, collection and Isolation of microbes from air.

UNIT-2: WATER MICROBIOLOGY

Basic concept, water zonation, eutrophication, microbial community in natural water. Determining the quality of water-bacteriological evidence for fecal pollution, indicator of fecal pollution. Water purification methods. Disinfection of potable water supply.

UNIT-3: SOIL MICROBIOLOGY.

Soil as an environmental culture medium, microbes of soil. Brief account of microbial interactions-symbiosis, mutualism, commensalism, competition, predation, parasitism. Microbiological examination of soil. Rhizosphere- concept and role of microbes, rhizosphere and non rhizosphere micro-flora. Mycorrhiza.

UNIT-4: INDUSTRIAL MICROBIOLOGY.

Introduction and brief history and scope, important microbes in various industries. Fermentation- definition, types-Aerobic and anaerobic, Batch and SSF. Important products bread, cheese, vinegar, fermented dairy products and oriented fermented food involving microbes. Microbial cells as food. SCP -mushroom cultivation, production of alcohol and fermented beverages, beer and Wine

UNIT-5: AGRICULTURAL MICROBIOLOGY

History of Agricultural Microbiology; Microbes and their importance in maintenance of soil, Biogeochemical cycles, role of microbes in maintaining the fertility of soil. Bio fertilizers -Bacterial, azotobacter and vermiform compost. Soil microorganism - association with vascular plants- phyllosphere, Rhizobium, Rhizoplane associative nitrogen fixation. Bio-fertilizers - Cyanobacterial and Azolla

Text Books Recommended:

1. Hugo, W.B., Russell, A.D, pharmaceutical Microbiology 4th edition. Blackwell scientific publications / Oxford.
2. Russell and Ayliffe, G. A J (1982) Principles and practice of Disinfection, preservation and sterilization Oxford:
3. Gregory P.H. Microbiology of the atmosphere. 2nd edition. Leonard Hill.
4. Food Microbiology by WC Frazier and D Westhoff.
5. Agricultural Microbiology by Bhagyaraj and Rangaswamy.
6. Bioremediation by KH Baker and DS Herson

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PRACTICAL

M. M. 50

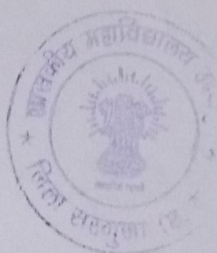
- Isolation of bacteria from air and soil (crop fields)
- Isolation of fungi from air and soil
- Relationship between OD and CFU measurements.
- Measurement of fungal growth by dry weight and wet weight
- Study of rhizospheric and phyllospheric microbes from economically important plants.
- Biodegradation study of some organic molecules
- Microbial assessment of potable water.
- Determination of BOD, COD and dissolved oxygen.
- Determination of blood group by slide agglutination test./TLC/DLC
- Determination of hemoglobin.
- Determination of quality of milk by MBRT
- Isolation of Rhizobium from root nodules.

Scheme of practical examination

Time 4 hour

MM- 50

- | | |
|---|----|
| 1. Exercise on immunological test | 10 |
| 2. Exercise on water analysis | 10 |
| 3. Exercise on isolation and characterization of micro organism | 05 |
| 4. Spotting (1 to 5) | 10 |
| 5. Viva voce | 05 |
| 6. Sessional | 10 |

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SYLLABUS
B.COM. PART-I

476 - 538

GROUPING OF SUBJECTS AND SCHEME OF EXAMINATION

Subject			Max.	Min.
i)	Environmental Studies	75	100	33
	Field Work	25		
A.	Foundation Course			
	I. Hindi Language		75	26
	II. English Language		75	26
B.	Three Compulsory Groups			
Group-I				
	I. Financial Accounting	75	150	50
	II. Business Communication	75		
Group-II				
	I. Business Mathematics	75	150	50
	II. Business Reg. Framework	75		
Group-III				
	I. Business Environment	75	150	50
	II. Business Economics	75		



B.Com Part- I
Compulsory
Group – I Paper – I - Financial Accounting

OBJECTIVE – To Impart basic accounting knowledge as applicable to business.

Present Syllabus	Proposed Syllabus	Remark
<p>UNIT –I Meaning and Scope of Accounting : Need, development and definition, objectives of accounting, difference between Book-keeping and accounting; Branches of accounting; Accounting Principles. Accounting Standard : International Accounting Standard only outlines, Accounting Standard in India. Accounting Transaction : Accounting Cycles Journal Rules of debit & Credit. Compound Journal Entry opening Entry Relationship between Journal & ledger, Capital & Revenue: Classification of Income & Expenditure entries.</p>	<p>UNIT –I Accounting :An Introduction: Development, Definition, Needs, objectives; Branches of accounting; Basic Accounting Principles, Concepts & Conventions. Accounting Standard : International Accounting Standard only outlines, Accounting Standard in India.. Accounting Transaction : Concept of Double Entry System, Concept of Capital & Revenue , Book of original records : Journal; Ledger; Sub-Division of Journal : Cashbook.</p>	<p>Addition of Sub Division of journal</p>
<p>UNIT –II Final Accounts; Trial balance; Manufacturing account; Trading account; Profit & loss account; Balance sheet; Adjustment entries. Rectification of errors; Classification of errors; Location of errors; Rectification of errors; Suspense account; Effect on profit.</p>	<p>UNIT –II Final Accounts; Trial balance; Manufacturing account; Trading account; Profit & loss account; Balance sheet; Adjustment entries. Rectification of errors; Classification of errors; Location of errors; Rectification of errors; Suspense account; Effect on profit.</p>	<p>No Change</p>
<p>UNIT –III Depreciation, Provisions, and Reserves; Concept of depreciation; Causes of deprecation; Depreciation, depletion amortization, Depreciation accounting; Methods of recording depreciation; Methods for providing depreciation; Depreciation of different assets; Depreciation of Replacement cost; Depreciation policy; as per Indian accounting Standard : provisions and Reserves. Accounts of Non-Trading Institutions.</p>	<p>UNIT –III Depreciation, Provisions, and Reserves; Concept of depreciation; Causes of deprecation; Depreciation, depletion amortization, Depreciation accounting; Methods of recording depreciation; Methods for providing depreciation; Depreciation of different assets; Depreciation of Replacement cost; Depreciation policy; as per Indian accounting Standard : provisions and Reserves. Accounts of Non-Trading Institutions.</p>	<p>No Change</p>

Present Syllabus	Proposed Syllabus	Remark
<p>UNIT -IV Special Accounting Areas : Branch Account : Dependent Branch : Debtors system, stock and debtor system ; Hire-purchase and installment purchase system ; Meaning of hire-purchase contract, Legal provision regarding hire-purchase contract; Accounting for goods of substantial sale values, and accounting records for goods for small values ; Installment purchase system ; After sales Service.</p> <p>UNIT -V a. Partnership Account : Essential characteristics of partnership: Partnership deed; Final accounts; Adjustment after closing the accounts ; Fixed fluctuating capital ; Goodwill ; AS- 10 ; Joint Life Policy ; Change in Profit Sharing Ratio. b. Reconstitution of a partnership firm-Admission of a partner ; Retirement of a partner ; Death of a partner; Dissolution of a firm ; Accounting entries; Insolvency of partnership firm-Modes of dissolution of a firm; Accounting entries ; Insolvency of partners distribution.</p>	<p>UNIT -IV Special Accounting Areas : Hire-purchase and installment purchase system : Meaning of hire-purchase contract, Legal provision regarding hire-purchase contract; Accounting for goods of substantial sale values, and accounting records for goods for small values ; Installment purchase system ; After sales Service.</p> <p>UNIT -V Partnership Account : Dissolution of a Partnership Firm, Amalgamation of Partnership Firms, Conversion of Partnership Firm into Joint Stock Company.</p>	<p>Ommission of Branch Accounting</p> <p>Ommission of Fundamental of Partnership, Admission, Retirement and Death of partner.</p> <p>Addition of Amalgamation of Partnership Firms, Conversion of Partnership Firm into Joint Stock Company.</p>



बी.कॉम. भाग – एक

अनिवार्य

समूह-1 प्रश्नपत्र – 1 – वित्तीय लेखांकन

वर्तमान पाठ्यक्रम	प्रस्तावित पाठ्यक्रम
<p>इकाई – 1 लेखांकन का अर्थ एवं क्षेत्र : आवश्यकता, विकास एवं परिभाषा, लेखांकन के उद्देश्य , पुस्तपालन एवं लेखांकन में अन्तर , लेखांकन की शाखाएं। लेखांकन सिद्धांत , लेखांकन मानक : अन्तर्राष्ट्रीय लेखांकन मानक (सिर्फ रुपरेखा) : भारत में लेखांकन मानक। लेखांकन व्यवहार : लेखांकन चक्र : पंजी (जर्नल) : डेबिट (विकलन) एवं क्रेडिट (समाकलन) के नियम, संयुक्त पंजी (जर्नल) प्रविष्टि, प्रारम्भिक प्रविष्टि : जर्नल एवं खाताबाही में सम्बन्ध, पूँजी एवं आगम : आय , व्यय एवं प्राप्तियों का वर्गीकरण।</p> <p>इकाई – 2 तलपट , अन्तिम खाते : निर्माणी खाता, व्यापार खाता, लाभ-हानि खाता, चिट्ठा एवं समायोजन प्रविष्टियाँ। अशुद्धियों का सुधार या संशोधन, अशुद्धियों का वर्गीकरण, अशुद्धियों की स्थिति, अशुद्धियों का सुधार, उचित खाता लाभ पर प्रभाव।</p> <p>इकाई – 3 मूल्य ह्रास (अवक्षयण), आयोजन एवं संचय , ह्रास की अवधारणा , ह्रास के कारण, ह्रास रिक्तता, अपलेखन ह्रास लेखांकन, ह्रास अभिलेखन की विधियाँ; विभिन्न सम्पत्तियों पर ह्रास आयोजन की विधियाँ; प्रतिस्थापन लागत पर ह्रास , भारतीय लेखांकन मानक के अनुसार लेखांकन नीतियाँ, आयोजन एवं संचय ; गैर-व्यापारिक संस्थाओं के खाते।</p> <p>इकाई – 4 विशेष लेखांकन क्षेत्र: (क) शाखा खाते : आश्रित शाखा, देनदार पद्धति , स्कन्ध एवं देनदार पद्धति। (ख) किराया क्रय एवं किस्त क्रय पद्धति : किराया क्रय अनुबन्ध का अर्थ, किराया क्रय अनुबन्ध संबंधित प्रावधान, अधिक मूल्य की वस्तुओं के लिए लेखांकन अभिलेख , किस्त क्रय पद्धति एवं क्रय पश्चात् सेवा।</p>	<p>इकाई – 1 लेखांकन का परिचय : विकास, परिभाषा, आवश्यकता, उद्देश्य , लेखांकन की शाखाएं ; लेखांकन के सिद्धांत , अवधारणा एवं परंपराएं। लेखांकन मानक : अन्तर्राष्ट्रीय लेखांकन मानक (सिर्फ रुपरेखा) : भारत में लेखांकन मानक। लेखांकन व्यवहार ; दोहरी प्रविष्टि प्रणाली की अवधारणा। पूँजी एवं आगम की अवधारणा, मूल प्रविष्टि की पुस्तकें: जर्नल, खाताबही, जर्नल का विभाजन : रोकड़ पुस्तक।</p> <p>इकाई – 2 तलपट , अन्तिम खाते : निर्माणी खाता, व्यापार खाता, लाभ-हानि खाता, चिट्ठा एवं समायोजन प्रविष्टियाँ। अशुद्धियों का सुधार या संशोधन, अशुद्धियों का वर्गीकरण, अशुद्धियों की स्थिति, अशुद्धियों का सुधार, उचित खाता लाभ पर प्रभाव।</p> <p>इकाई – 3 मूल्य ह्रास (अवक्षयण), आयोजन एवं संचय , ह्रास की अवधारणा , ह्रास के कारण, ह्रास रिक्तता, अपलेखन ह्रास लेखांकन, ह्रास अभिलेखन की विधियाँ; विभिन्न सम्पत्तियों पर ह्रास आयोजन की विधियाँ; प्रतिस्थापन लागत पर ह्रास , भारतीय लेखांकन मानक के अनुसार लेखांकन नीतियाँ, आयोजन एवं संचय ; गैर-व्यापारिक संस्थाओं के खाते।</p> <p>इकाई – 4 विशेष लेखांकन क्षेत्र: किराया क्रय एवं किस्त क्रय पद्धति : किराया क्रय अनुबन्ध का अर्थ, किराया क्रय अनुबन्ध संबंधित प्रावधान, अधिक मूल्य की वस्तुओं के लिए लेखांकन अभिलेख , किस्त क्रय पद्धति एवं क्रय पश्चात् सेवा।</p> <p>इकाई – 5 साझेदारी खाते : साझेदारी फर्म का विघटन, साझेदारी फर्मों का एकीकरण, साझेदारी</p>

वर्तमान पाठ्यक्रम	प्रस्तावित पाठ्यक्रम
<p>इकाई – 5</p> <p>(क) साझेदारी खाते : साझेदारी की सारभूत विशेषताएँ, साझेदारी संलेख ; अन्तिम खाते , खाते बंद होने के पश्चात् समायोजन; स्थिर एवं परिवर्तनशील पूँजी, ख्याति-लेखांकन मानक 10 संयुक्त जीवन बीमा पॉलिसी, लाभ विभाजन अनुपात में परिवर्तन, (ख) साझेदारी फर्म का पुनर्निर्माण ,फर्म में साझेदार का प्रवेश; साझेदार का अवकाश ग्रहण;साझेदार की मृत्यु, फर्म का विघटन, लेखांकन प्रविष्टियाँ, साझेदारी फर्म का दिवालिया होना, फर्म के विघटन की विधियाँ, लेखांकन प्रविष्टियाँ, साझेदार का दिवालिया होना, वितरण ।</p>	<p>फर्म की संयुक्त स्कन्ध प्रमण्डल में परिवर्तन।</p>

Suggested Readings:

1. Gupta, R.L. and Radhaswamy. M; Financial Accounting ; Sultan Chand and Sons, New Delhi. (Both Hindi and English medium)
2. Monga J.R. Ahuja Girish, and Sehgal Ashok : Financial Accounting ; Mayur Paper Back, Noida.
3. Shukla. M.C., Grewal T.S. and Gupta, S.C. : Advanced Accounts; S. Chand & Co.. New delhi.
4. Singh B.K. ; Financial Accounting; Wisdom Publishing House, Varanasi.
5. S.M. Shukla; Financial Accounting ; Sahitya Bhawan Publication ; Agra. (Both Hindi and English medium)
6. Karim & Khanuja ; Financial Accounting ; SBPD Publishing House ; Agra. (Both Hindi and English medium)
7. Agrawal & Mangal ; Financial Accounting; Universal Publication. (Both Hindi and English medium)

B.Com Part- I

Compulsory

Group – II

Paper – I - Business Mathematics

OBJECTIVE – To enable the students to have such minimum knowledge of mathematics as is applicable to business and economic situations.

Present Syllabus	Proposed Syllabus	Remark
<p>UNIT –I Calculus (problems and theorems involving trigonometrical ratios are not to be done) Differentiation : Partial derivatives up to second order ; Homogeneity of functions and Euler's theorem. Maxima And Minima; Cases of one variable involving second or higher order derivatives: logarithm's</p> <p>UNIT –II Matrices and Determinants : Definition of a matrix ; Type of a matrices ; Algebra of matrices ; Properties of determinants ; Calculation of values of determinants upto third order ; Adjoint of a matrix, elementary of row or column operations; Finding inverse of a matrix through adjoint and elementary row or column operations; Solution of a system of linear equations having unique solution and involving not more than three variables.</p> <p>UNIT –III Linear Programming –Formulation of LLP : Graphical method of solution ; Problems relating to two variables including the case of mixed constraints ; Cases having no solution, multiple solutions : unbounded solutions and redundant constraints. Transportation Problem , Ratio & Proportion.</p> <p>UNIT –IV Compound interest and Annuities : Certain different types of interest rates ; Concept of present value and amount of a sum ; Types of annuities ; Present value and amount of an annuity, including the case of continuous compounding ; Valuation of simple loans and debentures; Problems relating to sinking funds.</p> <p>UNIT –V Average, Percentages, Commission Brokerage, Profit and loss.</p>	<p>UNIT –I Simultaneous Equations– Meaning, Characteristics, Methods of Solving Equations in Two Variables– Graphical, Substitution, Elimination and Cross Multiplication. Linear Programming –Formulation of LLP : Graphical method of solution ; Problems relating to two variables including the case of mixed constraints .</p> <p>UNIT –II Matrices and Determinants : Definition of a matrix ; Type of a matrices ; Algebra of matrices ; Properties of determinants ; Calculation of values of determinants upto third order ; Logarithm's & Antilogarithm's.</p> <p>UNIT –III Simple interest and Compound Interest . Annuities : Types of annuities ; Present value and amount of an annuity, including the case of continuous compounding ; Valuation of simple loans and debentures; Problems relating to sinking funds.</p> <p>UNIT –IV Ratio & Proportion. Average, Percentage.</p> <p>UNIT –V Commission, Brokerage, Discount, Profit and loss.</p>	<p>Omission of Calculus Differentiation .</p> <p>Addition of Chapter Simultaneous Equation.</p> <p>Omission of Adjoint, elementary of row or column operations; inverse of a matrix.</p>

बी.कॉम. भाग – एक
अनिवार्य
समूह-2 प्रश्नपत्र – 1 – व्यावसायिक गणित

वर्तमान पाठ्यक्रम	प्रस्तावित पाठ्यक्रम
<p>इकाई – 1 कलन : अवकलन : आंशिक अवकलन— द्वितीय क्रम तक, फलनों की समघातीयता एवं यूलर प्रमेय, उच्चिष्ठ एवं निम्निष्ठ – एक चर के द्वितीय या उच्च क्रम से जुड़े सवाल । लघुगणक ।</p>	<p>इकाई – 1 – युगपद् समीकरण – अर्थ, विशेषताएँ, दो चर वाले समीकरण को हल करने की विधियाँ – रेखीय विधि, प्रतिस्थापन विधि, विलोपन विधि, वज्रगुणन विधि । रेखीय प्रक्रमन : रेखीय प्रक्रमन समस्या को गणितीय रूप में लिखना : ग्राफीक विधि से हल, द्विचर से संबंधित मिश्रित निबाध समस्याएं ।</p>
<p>इकाई – 2 आव्यूह एवं सारणिक : आव्यूह की परिभाषा , आव्यूह के प्रकार, आव्यूह बीजगणित, सारणिक के गुण, तृतीयक्रम के सारणिकों के मान की गणना, आव्यूह का सहखण्डज , पंक्ति या स्तम्भ मूल क्रियाएँ, मूल पंक्ति या स्तम्भ क्रियाओं द्वारा आव्यूह का व्युत्क्रम ज्ञात करना , अद्वितीय हल रखने वाली तथा तीन से अधिक चर न रखने वाली युगपद् समीकरणों का हल ।</p>	<p>इकाई – 2 आव्यूह एवं सारणिक : आव्यूह की परिभाषा , आव्यूह के प्रकार, आव्यूह बीजगणित, सारणिक के गुण, तृतीयक्रम के सारणिकों के मान की गणना । लघुगणक एवं प्रतिलघुगणक ।</p>
<p>इकाई – 3 रेखीय प्रक्रमन : रेखीय प्रक्रमन समस्या को गणितीय रूप में लिखना : ग्राफीक विधि से हल, समस्या का कोई सम्भव हल नहीं, अनेक हल, असीम समस्या का हल, व्यर्थ निबाध । परिवहन समस्या , अनुपात एवं समानुपात ।</p>	<p>इकाई – 3 साधारण ब्याज एवं चक्रवृद्धि ब्याज । वार्षिकी : वार्षिकी के प्रकार , वार्षिकी का वर्तमान मूल्य एवं मिश्रधन, ब्याज का सतत संयोजन, साधारण ऋण एवं ऋणपत्र का मूल्यांकन , शोधन निधि के प्रश्न ।</p>
<p>इकाई – 4 चक्रवृद्धि ब्याज एवं वार्षिकी : विभिन्न प्रकार की ब्याज दरें, वर्तमान मूल्य एवं मिश्रधन की गणना, वार्षिकी के प्रकार , वार्षिकी का वर्तमान मूल्य एवं मिश्रधन, ब्याज का सतत संयोजन, साधारण ऋण एवं ऋणपत्र का मूल्यांकन , शोधन निधि के प्रश्न ।</p>	<p>इकाई – 4 अनुपात एवं समानुपात । औसत : साधारण, भारित एवं सांख्यिकीय औसत (समान्तर माध्य) । प्रतिशतता ।</p>
<p>इकाई – 5 औसत, प्रतिशतता, कमीशन एवं दलाली, लाभ एवं हानि</p>	<p>इकाई – 5 कमीशन, दलाली, बट्टा, लाभ एवं हानि । परिवहन समस्या ।</p>

Suggested Readings:

1. Dr. Amarnath Dikshit, Dr. Jinendra Kumar Jain; Business Mathematics ;Himalaya Publishing House, Mumbai. (Both Hindi and English medium)
2. N.K. Nag : Business Mathematics; Kalyani publication, New Delhi. .
3. Dr. V.K. Shukla. : Business Mathematics; Madhya Pradesh hindi Granth Academy: Bhopal.
4. S.M. Shukla; Business Mathematics; Sahitya Bhawan Publication ; Agra. (Both Hindi and English medium)
5. Dr. Karim & Agrawal ; Business Mathematics; SBPD Publishing House ; Agra. (Both Hindi and English medium)
6. Dr. Ramesh Mangal; Business Mathematics; Satish Printer and Publishers, Indore.

B.Com Part- I

Compulsory

Group – I Paper – II - BUSINESS COMMUNICATION

OBJECTIVE – To develop effective business communication skills among the students.

Present Syllabus	Proposed Syllabus	Remark
<p>UNIT –I</p> <p>Introducing Business Communication : Definitions, concept and Significance of communication, Basic forms of communicating ; Communication models and process principles of effective communication; Theories of communication; Audience analysis. Self Development and Communication ; Development of positive personal attitudes, SWOT analysis; Vote's model of interdependence ; Whole Communication.</p> <p>UNIT –II</p> <p>Corporate Communication : Formal and Informal communication networks; Grapevine; Miscommunication (Barriers) ; improving communication Practices in business communication ; Group discussions ; Mock interviews, Seminars; Effective listening exercises, Individual and group presentations and report writing.</p> <p>UNIT –III</p> <p>Writing skill : Planning business messages; Rewriting and editing; The first draft; Reconstructing the final draft; Business letters and memo formats; Appearance request letters; Good news and bad new letters; Persuasive letters; Sales letters; Collection letters; Office memorandum.</p> <p>UNIT –IV</p> <p>Report Writing : Introduction to a proposal, Short report and formal report , report preparation.</p> <p>Oral Presentation : Principles of oral presentation, factor affecting presentation, sales presentation, training presentation, conducting surveys, speeches to motivate, presentation skill.</p>	<p>UNIT –I</p> <p>Introducing Business Communication : Definitions, concept and Significance of communication, Basic forms of communicating ; Communication models and process; principles of effective communication; Theories of communication; Self-Development and Communication ; Development of positive personal attitudes, SWOT analysis;</p> <p>UNIT –II</p> <p>Corporate Communication : Formal and Informal communication networks; Grapevine; Miscommunication (Barriers) ; improving communication. Practices in business communication ; Group discussions ; Seminars; Effective Listening : Principles of effective listening; Factor affective listening exercises; Oral, Written, and video session, Audience analysis and feedback.</p> <p>UNIT –III</p> <p>Writing skill : Business letters – Defination, concepts ,structure, advantages disadvantage, need and kinds of business letter ,Essentials of effective business letter. Good news and bad new letters; Office memorandum. Writing Resume and Letter of Job Application.</p> <p>UNIT –IV</p> <p>Report Writing : Introduction to a proposal, Short report and formal report , report preparation.</p> <p>Oral Presentation : Principles of oral presentation, factor affecting presentation, sales presentation, training presentation, conducting surveys, speeches to motivate, presentation skill.</p>	<p>Omission of Vote's model of interdependence.</p> <p>Balancing of Syllabus and omitted repetition .</p>

Present Syllabus	Proposed Syllabus	Remark
<p>UNIT -V Non-Verbal Aspects of Communicating. Body Language : Kinesics, Proxemics, Para Language. Effective listening : Principles of effective listening; Factor affective listening exercises; Oral, Written, and video session. Interviewing skills : Appearing in interviews; Conducting interviews; writing resume and letter of application . Modern Forms of Communicating : Fax; E-Mail; video conferencing; etc. International Communication ; Cultural sensitiveness and cultural context ; Writing and presenting in international situations; Inter cultural factors in interactions; Adapting to Global business.</p>	<p>UNIT -V Non-Verbal Aspects of Communicating. Body Language : Kinesics, Proxemics, Para Language. Interviewing skills : Appearing in interviews; Conducting interviews; mock interview. Modern Forms of Communicating : Fax; E-Mail; video conferencing; etc. International Communication for global business.</p>	

बी.कॉम. भाग - एक

अनिवार्य

समूह-1 प्रश्नपत्र - 2 - व्यावसायिक संचार

वर्तमान पाठ्यक्रम

इकाई - 1

व्यावसायिक संचार परिचय : परिभाषा , अवधारणाएं एवं संचार का महत्व, संचार के आधारभूत प्रकार एवं मॉडल एवं प्रभावी संचार के सिद्धांत , प्रक्रिया , श्रोता विश्लेषण। आत्म विकास एवं संचार , सकारात्मक व्यक्तिगत दृष्टिकोण का विकास , स्वीट विश्लेषण , मतों की परस्पर निर्भरता का प्रतिरूप।

इकाई - 2

व्यावसायिक संस्था का संचार तंत्र :- औपचारिक एवं अनौपचारिक संचार तंत्र, अंगूरी लता संचार, संचार की बाधाएं एवं सुधार। व्यवहार में व्यावसायिक संचार :- सामूहिक परिचर्चा, साक्षात्कार, संगोष्ठी , प्रभावपूर्ण सूचना , व्यक्तिगत एवं सामूहिक प्रस्तुतीकरण एवं रिपोर्ट लेखन।

इकाई - 3

लेखन कुशलता : व्यावसायिक संदेश की योजना एवं उसे संशोधित करना, प्रथम मसौदा, अंतिम मसौदा का पुनर्निर्माण , व्यावसायिक पत्र एवं ज्ञापन, प्रारूप : निवेदन पत्र , अनुकूल एवं प्रतिकूल संवाद पत्र, प्रेरक पत्र, विक्रय संबंधी पत्र, तकादे का पत्र या संग्रहण पत्र , कार्यालयीन ज्ञापन व पत्र ।

इकाई - 4

रिपोर्ट लेखन - एक प्रस्ताव का परिचय , लघु रिपोर्ट एवं औपचारिक रिपोर्ट , रिपोर्ट लेखन की तैयारी। मौखिक प्रस्तुती : मौखिक प्रस्तुती के सिद्धांत , प्रस्तुतीकरण को प्रभावित करने वाले कारक, विक्रय प्रस्तुतीकरण , प्रशिक्षण प्रस्तुतीकरण, सर्वेक्षण आयोजित करना, प्रेरक भाषण, प्रभावी प्रस्तुती कौशल।

प्रस्तावित पाठ्यक्रम

इकाई - 1

व्यावसायिक संचार परिचय : परिभाषा , अवधारणाएं एवं संचार का महत्व, संचार के आधारभूत प्रकार एवं मॉडल, प्रक्रिया एवं प्रभावी संचार के सिद्धांत। आत्म विकास एवं संचार , सकारात्मक व्यक्तिगत दृष्टिकोण का विकास , स्वीट विश्लेषण।

इकाई - 2

व्यावसायिक संस्था का संचार तंत्र :- औपचारिक एवं अनौपचारिक संचार तंत्र, अंगूरी लता संचार, संचार की बाधाएं एवं सुधार। व्यवहार में व्यावसायिक संचार :- सामूहिक परिचर्चा, संगोष्ठी , प्रभावपूर्ण सूचना : प्रभावपूर्ण सूचने के सिद्धांत, प्रभावपूर्ण सूचने के कारक, मौखिक , लिखित एवं विडियो सत्र का व्यवहारिक अध्ययन, श्रोता विश्लेषण एवं प्रतिपुष्टी।

इकाई - 3

लेखन कुशलता : व्यावसायिक पत्र - परिभाषा, अवधारणा, संरचना, गुण दोष , आवश्यकता एवं विभिन्न प्रकार के व्यावसायिक पत्र , प्रभावी व्यापारिक पत्र व्यवहार के मूल तत्व। अनुकूल एवं प्रतिकूल संवाद पत्र, कार्यालयीन ज्ञापन व पत्र । जीवनवृत्त लेखन एवं नौकरी के लिए आवेदन पत्र।

इकाई - 4

रिपोर्ट लेखन - एक प्रस्ताव का परिचय , लघु रिपोर्ट एवं औपचारिक रिपोर्ट , रिपोर्ट लेखन की तैयारी। मौखिक प्रस्तुती : मौखिक प्रस्तुती के सिद्धांत , प्रस्तुतीकरण को प्रभावित करने वाले कारक, विक्रय प्रस्तुतीकरण , प्रशिक्षण प्रस्तुतीकरण, सर्वेक्षण आयोजित करना, प्रेरक भाषण, प्रभावी प्रस्तुती कौशल।

वर्तमान पाठ्यक्रम	प्रस्तावित पाठ्यक्रम
<p>इकाई – 5</p> <p>अशाब्दिक संचार के पहलू – दैहिक भाषा : समय एवं पार्श्व भाषा , प्रभावपूर्ण सूचना : प्रभावपूर्ण सूचने के सिद्धांत, प्रभावपूर्ण सूचने के कारक, मौखिक , लिखित एवं विडियो सत्र का व्यवहारिक अध्ययन। साक्षात्कार कुशलता : साक्षात्कार में शामिल होना, साक्षात्कार का आयोजन, जीवनवृत्त – सारांश लेखन एवं आवेदन पत्र। संचार के आधुनिक रूप – फैंक्स , ई मेल, वीडियो कॉन्फ्रेंसिंग आदि अंतराष्ट्रीय संचार : सांस्कृतिक संवेदनशीलता एवं सांस्कृतिक संदर्भ , अंतराष्ट्रीय स्थितियों में लेखन और प्रस्तुतीकरण करना : अंतराष्ट्रीय क्रियाओं में अंतराष्ट्रीय सांस्कृतिक कारक , वैश्विक व्यापार के संदर्भ में।</p>	<p>इकाई – 5</p> <p>अशाब्दिक संचार के पहलू – दैहिक भाषा , समय एवं पार्श्व भाषा , साक्षात्कार कुशलता : साक्षात्कार में शामिल होना, साक्षात्कार का आयोजन, मौक साक्षात्कार। संचार के आधुनिक रूप – फैंक्स , ई मेल, वीडियो कॉन्फ्रेंसिंग आदि अंतराष्ट्रीय संचार : सांस्कृतिक संवेदनशीलता एवं सांस्कृतिक संदर्भ , भूमण्डलीय व्यावसाय के लिए अंतराष्ट्रीय संप्रेषण।</p>

Suggested Readings:

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2. Balasubramanyam: Business Communication; Vikas Publishing House, Delhi. (English medium)
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5. Patri VR : Essentials of Communication ; Greenspan Publications, New Delhi. (English medium)
6. Senguin J : Business Communication; The Real World and Your Career, Allied Publishers , New Delhi. (English medium)
7. Dr. Mishra , Shukla & Patel ; Business Communication ; SBPD Publishing House, Agra. (Both Hindi and English medium)

B.Com Part- I Compulsory

Group – II Paper – II – BUSINESS REGULATORY FRAMEWORK

OBJECTIVE – To provide a brief idea about the framework of Indian business laws.

Present Syllabus	Proposed Syllabus	Remark
<p>UNIT –I Law of Contract (1872) : Nature of contract ; Classification ; Offer and acceptance; Capacity of parties to contract, free consent, Considerations, Legality of object; Agreement declared void; Performance of contract; Discharge of contract; Remedies for breach of contract.</p> <p>UNIT –II Special contracts; Indemnity ; Guarantee; Bailment and pledge; Agency.</p> <p>UNIT –III Sale of Goods Act (1930) ;Formation of contracts of sale ;Goods and their classification, price, Conditions and warranties; Transfer of property in goods; Performance of the contract of sales; Unpaid seller and his rights; sale by auction; Hire purchase agreement.</p> <p>UNIT –IV Negotiable Instrument Act (1881) : Definition of negotiable instrument; Feature; Promissory note; Bill of exchange & cheque; Holder and holder in the due course; Crossing of a cheque, types of crossing; Negotiation; Dishonour and discharge of negotiable instrument.</p> <p>UNIT –V The Consumer Protection Act 1986 : Salient features; Definition of consumer ; Grievance redressal machinery; Foreign Exchange Management Act 2000 : Definition and main provisions, Right to Information Act 2005(Main Provision)</p>	<p>UNIT –I Law of Contract (1872) –I : Nature of contract ; Classification ; Offer and acceptance; Capacity of parties to contract, free consent, Considerations, Legality of object; Agreement declared void.</p> <p>UNIT –II Law of Contract (1872) - II : Performance of contract, Discharge of contract; Remedies for breach of contract. Special contracts; Indemnity ; Guarantee; Bailment and pledge; Agency.</p> <p>UNIT –III Sale of Goods Act (1930) ;Formation of contracts of sale ;Goods and their classification, price, Conditions and warranties; Transfer of property in goods; Performance of the contract of sales; Unpaid seller and his rights; sale by auction; Hire purchase agreement.</p> <p>UNIT –IV Negotiable Instrument Act (1881) : Definition of negotiable instrument; Feature; Promissory note; Bill of exchange & cheque; Holder and holder in the due course; Crossing of a cheque, types of crossing; Negotiation; Dishonor and discharge of negotiable instrument.</p> <p>UNIT –V The Consumer Protection Act 1986 : Main Provision, Definition of consumer ,Consumer Disputes , Grievance redressal machinery ; Indian Partnership Act 1932. Limited Liabilities Partnership Act 2008. Introduction of Intellectual Property Right Act – Copyright, Patent & Trademark.</p>	<p style="text-align: center;">Balancing of Syllabus</p> <p style="text-align: center;">Replaced FEMA & RTI with Partnership act, LLP Act 2008 and Intellectual property right act.</p>

बी.कॉम. भाग — एक

अनिवार्य

समूह-2 प्रश्नपत्र — 2 — व्यावसायिक नियमन रूपरेखा

वर्तमान पाठ्यक्रम	प्रस्तावित पाठ्यक्रम
<p>इकाई — 1 भारतीय अनुबंध अधिनियम (1872) : अनुबंध की प्रकृति : वर्गीकरण , प्रस्ताव तथा स्वीकृति, अनुबंध के योग्य पक्षकार , पक्षकारों की स्वतंत्र सहमति , प्रतिफल, उद्देश्य की वैधता , व्यर्थ घोषित ठहराव : अनुबंध का निष्पादन , अनुबंधों की समाप्ति , अनुबंध भंग के उपाय एवं परिणाम।</p> <p>इकाई — 2 विशिष्ट अनुबंध : क्षतिपूर्ति , प्रतिभूति, निक्षेप, गिरवी अनुबंध, एजेंसी।</p> <p>इकाई — 3 वस्तु विक्रय अधिनियम (1930) : वस्तु विक्रय अनुबंध का निर्माण , माल का वर्गीकरण , कीमत, शर्तें और आश्वासन , माल के स्वामित्व का हस्तांतरण, विक्रय अनुबंध का निष्पादन , अदत्त विक्रेता के अधिकार , नीलाम द्वारा विक्रय , किराया क्रय ठहराव।</p> <p>इकाई — 4 विनिमय साध्य विलेख अधिनियम (1881) : परिभाषाएं, विशेषताएं , प्रतिज्ञा पत्र, विनिमय विपत्र और धनादेश (चैक) : धारक तथा यथाविधिधारी , रेखांकित चैक, रेखांकन के प्रकार, परक्रामण, विनिमय साध्य विलेख का अनदारण व मुक्ति।</p> <p>इकाई — 5 उपभोक्ता संरक्षण अधिनियम (1986) : मुख्य विशेषताएं , उपभोक्ता की परिभाषा , उपभोक्ता विवाद निवारण अभिकरण। मुख्य प्रावधान , सूचना का अधिकार अधिनियम (2005) — मुख्य प्रावधान।</p>	<p>इकाई — 1 भारतीय अनुबंध अधिनियम (1872) : अनुबंध की प्रकृति : वर्गीकरण , प्रस्ताव तथा स्वीकृति, अनुबंध के योग्य पक्षकार , पक्षकारों की स्वतंत्र सहमति , प्रतिफल, उद्देश्य की वैधता , व्यर्थ घोषित ठहराव।</p> <p>इकाई — 2 अनुबंध का निष्पादन : अनुबंधों की समाप्ति , अनुबंध भंग के उपाय एवं परिणाम। विशिष्ट अनुबंध : क्षतिपूर्ति , प्रतिभूति, निक्षेप , गिरवी अनुबंध, एजेंसी।</p> <p>इकाई — 3 वस्तु विक्रय अधिनियम (1930) : वस्तु विक्रय अनुबंध का निर्माण , माल का वर्गीकरण , कीमत, शर्तें और आश्वासन , माल के स्वामित्व का हस्तांतरण, विक्रय अनुबंध का निष्पादन , अदत्त विक्रेता के अधिकार , नीलाम द्वारा विक्रय , किराया क्रय ठहराव।</p> <p>इकाई — 4 विनिमय साध्य विलेख अधिनियम (1881) : परिभाषाएं, विशेषताएं , प्रतिज्ञा पत्र, विनिमय विपत्र और धनादेश (चैक) : धारक तथा यथाविधिधारी , रेखांकित चैक, रेखांकन के प्रकार, परक्रामण, विनिमय साध्य विलेख का अनदारण व मुक्ति।</p> <p>इकाई — 5 उपभोक्ता संरक्षण अधिनियम (1986) : मुख्य विशेषताएं , उपभोक्ता की परिभाषा , उपभोक्ता विवाद निवारण अभिकरण। भारतीय साझेदारी अधिनियम 1932। सीमित दायित्व वाली साझेदारी अधिनियम 2008। बौद्धिक संपदा अधिकार अधिनियम का परिचय — कॉपीराइट, पेटेंट एवं ट्रेडमार्क।</p>

Suggested Readings:

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2. Kapoor N.D. : Business Law ; Sultan Chand & Sons, New Delhi. (English medium)
3. Chandha P.R. : Business Law; Galgotia ,New Delhi. (English medium)
4. Dr. J.K. Vaishnav : Business Law; Sahitya Bhawan publication, Agra. (English medium)
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6. K.R. Bulchandani; Business Law; Himalaya Publishing House , Mumbai. (Both Hindi and English medium)
7. R.L. Navlakha; Business Law; Ramesh Book depot, Jaipur. (Both Hindi and English medium)
8. Arun Kumar Gangele; Business Regulatory Framework; Ram Prasad & Sons, Agra. (Hindi medium)

B.Com Part- I

Compulsory

Group – III Paper – I– BUSINESS ENVIRONMENT

OBJECTIVE – To acquainting the students with the emerging issues in business at the national and international level in the light of the policies of liberalization and globalization.

Present Syllabus	Proposed Syllabus	Remark
UNIT –I Indian Business Environment : Concept, components and importance Economic Trends (overview) : Income : Saving and investment ; industry; Trade and balance of payment, Money ; Finance ; Prices.	UNIT –I Business Environment : Concept, Components and Importance ,Economic Trends (overview) : Income : Saving and investment ; Trade and balance of payment, Money and Finance .	
UNIT –II Problems of Growth : Unemployment ; Poverty ; Regional imbalances ; social injustice; Inflation ; Parallel economy ; Industrial sickness.	UNIT –II Problems of Growth : Unemployment ; Poverty ; Regional imbalances ; Social Injustice; Inflation ; Parallel economy ; Industrial sickness.	
UNIT –III Role of Government ; Monetary and fiscal policy ; Industrial policy ; Industrial licensing. Privatization ; Devaluation; Export-Import policy; Regulation of foreign investment; Collaborations in the light of recent changes.	UNIT –III Role of Government ; Monetary and fiscal policy ; Industrial policy ; Industrial licensing. Privatization ; Liberalisation, Globalisation Devaluation; Demonitisation; Export-Import policy.	Addition of Liberalization, Globalization and Demonitisation.
UNIT –IV Review of Previous Plans, the current five year Plan, major policy, Resources Allocation.	UNIT –IV Economic Planning in India : Need, objectives, Strategy; Review of Previous Plans, Planning Commission. Foreign Exchange Management Act 2000 : Basic Concept and Main Provisions.	Addition of Planning Commission and omitted current five year plan.
UNIT –V International Environment ; international trading environment (overview); Trends in World trade and the problems of developing countries; Foreign trade and economic growth; International economic groupings ; International economic institutions – GATT. WTO World Bank. IMF; FDI; Counter trade.	UNIT –V International Environment ; Trends in World trade and the problems of developing countries; Foreign trade and economic growth; International economic groupings – GATT. ,WTO ,UNCTAD, World Bank, IMF; FDI.	Addition of UNCTAD and omitted international trading environment.

बी.कॉम. भाग – एक
अनिवार्य
समूह-3 प्रश्नपत्र – 1 – व्यावसायिक पर्यावरण

वर्तमान पाठ्यक्रम	प्रस्तावित पाठ्यक्रम
<p>इकाई – 1 भारतीय व्यावसायिक पर्यावरण : अवधारणा, संघटक व महत्व। आर्थिक प्रवृत्तियों : आय, बचत एवं विनियोग, औद्योगिक प्रवृत्तियों; व्यापार एवं भुगतान सन्तुलन, मुद्रा, वित्त तथा कीमत।</p> <p>इकाई – 2 विकास की समस्याएँ : बेरोजगारी, निर्धनता एवं क्षेत्रीय असन्तुलन, सामाजिक अन्याय, मुद्रास्फीति, समान्तर अर्थव्यवस्था, औद्योगिक रूग्णता।</p> <p>इकाई – 3 शासन की भूमिका : मौद्रिक एवं राजकोषीय नीति, औद्योगिक नीति, औद्योगिक लाइसेंसिंग नीति, निजीकरण, अवमूल्यन, निर्यात-आयात नीति, विदेशी विनियोग का नियमन।</p> <p>इकाई – 4 पुर्व योजनाओं की समीक्षा, चालू पंचवर्षीय योजना : मुख्य रणनीति, संसाधनों आबंटन।</p> <p>इकाई – 5 अंतराष्ट्रीय पर्यावरण : अंतराष्ट्रीय व्यापारिक पर्यावरण, विश्व व्यापार की प्रवृत्ति एवं विकासशील देशों की समस्याएँ, विदेशी व्यापार एवं आर्थिक विकास, अंतराष्ट्रीय आर्थिक समूह- अंतराष्ट्रीय अर्थव्यवस्था की संस्थाएँ, विश्व व्यापार संगठन, व्यापार एवं प्रशुल्क एवं व्यापार संबंधि सामान्य समझौता (गैट), विश्व बैंक, अंतराष्ट्रीय मुद्रा कोष, अंतराष्ट्रीय पुनर्निर्माण एवं विकास बैंक, प्रति व्यापार, एफ. डी. आई।</p>	<p>इकाई – 1 व्यावसायिक पर्यावरण : अवधारणा, संघटक व महत्व, आर्थिक प्रवृत्तियों : आय, बचत एवं विनियोग; व्यापार एवं भुगतान सन्तुलन, मुद्रा एवं वित्त।</p> <p>इकाई – 2 विकास की समस्याएँ : बेरोजगारी, निर्धनता एवं क्षेत्रीय असन्तुलन, सामाजिक अन्याय, मुद्रास्फीति, समान्तर अर्थव्यवस्था, औद्योगिक रूग्णता।</p> <p>इकाई – 3 शासन की भूमिका (वर्तमान परिदृश्य में) : मौद्रिक एवं राजकोषीय नीति, औद्योगिक नीति, औद्योगिक लाइसेंसिंग नीति, निजीकरण, उदारीकरण, भूमण्डलीकरण, अवमूल्यन, विमुद्रिकरण निर्यात-आयात नीति, विदेशी विनियोग का नियमन।</p> <p>इकाई – 4 भारत में आर्थिक नियोजन : आवश्यकता, उद्देश्य एवं ब्यूहरचना, पुर्व पंचवर्षीय योजनाओं की समीक्षा, चालू पंचवर्षीय योजना। विदेशी विनिमय प्रबंध अधिनियम 2000 : अवधारणा एवं मुख्य प्रवधान।</p> <p>इकाई – 5 अंतराष्ट्रीय पर्यावरण : विश्व व्यापार की प्रवृत्ति एवं विकासशील देशों की समस्याएँ, विदेशी व्यापार एवं आर्थिक विकास, अंतराष्ट्रीय आर्थिक समूह- प्रशुल्क एवं व्यापार संबंधि सामान्य समझौता (गैट), विश्व व्यापार संगठन, विश्व बैंक, अंतराष्ट्रीय मुद्रा कोष, प्रत्यक्ष विदेशी निवेश, संयुक्त राष्ट्र व्यापार एवं विकास संगठन (अंकटाइ)।</p>

Suggested Readings:

1. Agarwal A. N. : Indian Economy, Vikas Publishing House Delhi. (English medium)
2. Khan Farooq A : Business and Society; S. Chand , Delhi. (English medium)
3. Dutt R. and Sundharam K. Pm. ; Indian Economy; S. Chand , Delhi. (English medium)
4. Misra S.K. and Puri V.K. : Indian Economy; Himalaya Publishing House, New Delhi. (English medium)
5. Dr. V.C. Sinha; Business Environment; SBPD Publishing House, Agra . (Both Hindi and English medium)
6. Dr. J. K. Jain; Business Environment; Madhya Pradesh hindi Granth Academy: Bhopal. (Hindi medium)
7. Gupta & Pathak; Business Environment; Ram Prasad & Sons, Raipur. (Hindi medium)
8. S.K. Singh; Business Environment; SBPD Publishing House, Agra . (Both Hindi and English medium)

B.Com Part- I
Compulsory

Group – III – Business Economics

Paper – II– BUSINESS ECONOMICS

OBJECTIVE – To acquaint the students with the principles of Business Economics as are applicable in business.

Present Syllabus	Proposed Syllabus	Remark
<p>UNIT –I Introduction : Basic problems of an economy ; Working of price mechanism. Elasticity of Demand ; Concept and measurement of elasticity of demand ; Price, income and cross elasticity ; Average revenue , marginal revenue, and elasticity of demand; Determinates of elasticity of demand; Importance of elasticity of demand.</p> <p>UNIT –II Production Function ; Law of variable proportions ; Iso-quants; Expansion path; Returns to scale; Internal and external economies and diseconomies.</p> <p>UNIT –III Theory of Costs : Short-run and long-run cost curves – traditional and modern approaches. Market Structures I Market structures and business decisions ; Objectives of a business firm. (a) Perfect Competition ; Profit maximization and equilibrium of firm and industry; Short-run and long-run supply curves; Price and output determination, Practical applications. (b) Monopoly : Determination of price under monopoly ; Equilibrium of a firm ; Comparison between perfect competition and monopoly; Multi-plant monopoly ; Price Discrimination. Practical applications.</p>	<p>UNIT –I Introduction : Definition ,Nature and Scope of Economics, Difference Between Micro and Macro Economics, Method of Economic Study : Inductive and Deductive Methods. Basic problem of Economy, Working of Price Mechanism. Utility Analysis: Measurements of Utility, Law of Diminishing Marginal Utility, Law of Equi-Marginal Utility.</p> <p>UNIT-II Law of demand: Meaning and Definitions, Effecting Factors, Types ; Exception of Law of demand. Elasticity of Demand : Concept, Definitions, Importance, Types and Measurement of Elasticity of Demand, Factors affecting the Elasticity of Demand.</p> <p>UNIT –III Production : Factors of Production ,their characteristics and importance. Production Functions : Law of Variable Proportions, Return to scale and Equal Product Curve Analysis. Internal and external economies and diseconomies.</p>	<p>Addition of Introduction of Economics, Method of Economic study & Utility Analysis.</p> <p>Addition of Law of Demand.</p> <p>Addition of Factor of Production.</p>

Present Syllabus	Proposed Syllabus	Remark
<p>UNIT –IV Market Structure</p> <p>(a) Monopolistic competition : Meaning and Characteristics; Price and output determination under monopolistic competition ; Product differentiations; Selling costs; Comparison with perfect competition; Excess capacity under monopolistic competition.</p> <p>(b) Oligopoly : Characteristics, indeterminate pricing and output Classical models of oligopoly ; Price leadership ; Collusive oligopoly.</p> <p>UNIT –V Factor Pricing-I : Marginal Productivity theory and demand for factors; Nature of supply of factor inputs; Determination of wage rates under perfect competition and monopoly; Exploitation of labour. Factor pricing-II : Rent concept, Recardian and modern theories of Rent quasirent. Interests concept and theories of interest ; Profit-nature , concept and theories of profit.</p>	<p>UNIT –IV Market Structure – Concept , Characteristics, Classification. Determination of Price under condition of Perfect Competition, Imperfect Competition and Monopoly, Monopolistic Competition, Oligopoly and Duopoly.</p> <p>UNIT –V Theories of distribution, Marginal Productivity theory of distribution, Concept and theories of Wages, Rent, Interest & Profit.</p>	

बी.कॉम. भाग — एक

अनिवार्य

समूह—3 प्रश्नपत्र — 2 — व्यावसायिक अर्थशास्त्र

वर्तमान पाठ्यक्रम	प्रस्तावित पाठ्यक्रम
<p>इकाई — 1 परिचय : अर्थशास्त्र की मुख्य समस्याएं , कीमत संयंत्र के कार्य, मांग की लोच , मांग की लोच मापने की विधियां एवं अवधारणाएं : कीमत , आय तथा आडी लोच , औसत आगम, सीमान्त आगम एवं मांग की लोच , मांग की लोच का निर्धारण तथा मांग की लोच का महत्व।</p> <p>इकाई — 2 उत्पादन फलन, परिवर्तन अनुपात का नियम , समोत्पाद , विस्तार पथ, पैमाने के प्रतिफल , आंतरिक एवं बाह्य मितव्ययिता एवं अपमितव्ययिता।</p> <p>इकाई — 3 लागत अवधारणाएं , अल्पकालीन एवं दीर्घकालीन लागत वक्र, परम्परागत एवं आधुनिक विचारधारा। बाजार संरचना तथा व्यावसायिक निर्णयन, व्यावसायिक फर्म के उद्देश्य। (अ) पूर्ण प्रतियोगिता , लाभ अधिकतमीकरण तथा फर्म का साम्य , औद्योगिक अल्पकालीन एवं दीर्घकालीन पूर्ति वक्र, कीमत एवं उत्पाद निर्धारण। (ब) एकाधिकार : एकाधिकार में मूल्य निर्धारण , फर्म का साम्य , पूर्ण प्रतियोगिता एवं एकाधिकार में अन्तर , एकाधिकार के अंतर्गत कीमत विभेद।</p> <p>इकाई — 4 बाजार संरचना: (अ) एकाधिकृत प्रतियोगिता : आशय एवं विशेषताएं , कीमत एवं उत्पाद निर्धारण , उत्पाद विभेद , विक्रय लागत, पूर्ण प्रतिस्पर्धा से तुलना , अतिरिक्त क्षमता सिद्धांत। (ब) अल्पाधिकार : विशेषताएं , कीमत एवं उत्पाद निर्धारण , परंपरागत मॉडल, कीमत नेतृत्व , कपटपूर्ण अल्पाधिकार।</p>	<p>इकाई — 1 परिचय: अर्थशास्त्र की परिभाषा, प्रकृति एवं क्षेत्र, व्यक्ति एवं समष्टि अर्थशास्त्र में भेद, आर्थिक अध्ययन की प्रणालियां : निगमन एवं आगमन। अर्थव्यवस्था की मूल समस्याएं, कीमत संयंत्र का कार्यकरण। उपयोगिता विश्लेषण — उपयोगिता की माप, सीमांत उपयोगिता ह्रास नियम , समसीमांत उपयोगिता नियम।</p> <p>इकाई — 2 मांग का नियम : अर्थ, परिभाषा , प्रभावित करने वाले घटक, मांग के रूप, मांग के नियम के अपवाद। मांग की लोच : अवधारणा, परिभाषा, महत्व, प्रकार एवं मापन की विधियां, मांग की लोच को प्रभावित करने वाले घटक।</p> <p>इकाई — 3 उत्पादन : उत्पादन के कारक , उनकी विशेषताएं एवं महत्व। उत्पादन फलन : परिवर्तनशील अनुपातों का नियम , पैमाने का प्रतिफल , समोत्पाद वक्र विश्लेषण। आंतरिक एवं बाह्य मितव्ययिता एवं अपमितव्ययिता।</p> <p>इकाई — 4 बाजार संरचना: अवधारणा, परिभाषाएं, विशेषताएं एवं वर्गीकरण। पूर्ण प्रतियोगिता, अपूर्ण प्रतियोगिता, एकाधिकारी प्रतियोगिता, एकाधिकृत प्रतियोगिता , अल्पाधिकार एवं द्वयाधिकार में कीमत निर्धारण।</p> <p>इकाई — 5</p>

वर्तमान पाठ्यक्रम	प्रस्तावित पाठ्यक्रम
<p>इकाई - 5</p> <p>कीमत कारक- I सीमान्त उत्पादकता सिद्धांत तथा मांग कारक, पूर्ति की प्रकृति, पूर्ण प्रतियोगिता एवं एकाधिकार में मजदूरी दर का निर्धारण, श्रम का शोषण।</p> <p>कीमत कारक - II - लगान अवधारणा, रिकार्डों का लगान सिद्धांत तथा लगान का आधुनिक सिद्धांत, ब्याज अवधारणा तथा ब्याज का सिद्धांत लाभ की प्रकृति, अवधारणा तथा लाभ के सिद्धांत।</p>	<p>वितरण का सिद्धांत : सीमान्त उत्पादकता का सिद्धांत, मजदूरी, लगान, ब्याज एवं लाभ की अवधारणा एवं सिद्धांत।</p>

Suggested Readings:

1. John P. Gould, Jr. and Edward P. Lazear: Micro economic theory; All India Traveller, Delhi. (English medium)
2. Koutsoyianni A. : Modern Microeconomics: Macmillan, New Delhi. (English medium)
3. Khan Farooq A : Business and Society; S. Chand, Delhi. (English medium)
4. Misra S.K. and Puri V.K. : Indian Economy; Himalaya Publishing House, New Delhi. (English medium)
5. M. L. Jhingan : Micro Economics, Vrinda publication, Delhi. (Both English and Hindi medium)
6. Dr. J. K. Jain; Business Economics; Madhya Pradesh hindi Granth Academy: Bhopal. (Hindi medium)
7. Dr. V.C. Sinha; Business Economics; SBPD Publishing House, Agra. (Both English and Hindi medium)
8. Dr. Jai Prakash Misra; Business Economics; Sahitya Bhawan Publication, Agra. (Hindi medium)

SYLLABUS
B.COM. PART-II

GROUPING OF SUBJECTS AND SCHEME OF EXAMINATION

Subject		Max.	Min.
A. Foundation Course			
I. Hindi Language		75	26
II. English Language		75	26
B. Three Compulsory Groups			
Group-I			
I. Corporate Accounting	75	150	50
II. Company Law	75		
Group-II			
I. Cost Accounting	75	150	50
II. Principles of Bus. Management	75		
Group-III			
I. Business Statistics	75	150	50
II. Fundamental of Entrepreneurship	75		

B.Com.II year

COMPULSORY

Group - I PAPER - I (CORPORATE ACCOUNTING)

OBJECTIVE

This course enable the students to develop awareness about corporate accounting in conformity with the provisions of companies Act.
(As per company act 2013)

Current Syllabus	Proposed Syllabus	Remark
UNIT-I Issue, Forfeiture, and Re-issue of Shares : Redemption of preference shares; Issue and redemption of debentures.	UNIT-I Issue, Forfeiture, and Re-issue of Shares : Redemption of preference shares; Issue and redemption of debentures.	
UNIT-II Final Accounts; Excluding computation of managerial remuneration, and disposal of profit, Liquidation of Company.	UNIT-II Final Accounts (as per company act 2013) Liquidation of Company.	Omission of managerial remuneration, and disposal of profit
UNIT-III Valuation of Goodwill and Shares.	UNIT-III Valuation of Goodwill and Shares.	
UNIT-IV Accounting for Amalgamation of Companies as per Indian Accounting Standard 14; Accounting for internal reconstruction - excluding intercompany holdings and re-construction schemes.	UNIT-IV Accounting for Amalgamation of Companies as per Indian Accounting Standard 14; Accounting for internal reconstruction - excluding intercompany holdings and re-construction schemes.	
UNIT-V Consolidated Balance Sheet of holding companies with one subsidiary only. <u>Final Account of Banking Companies.</u>	UNIT-V Consolidated Balance Sheet of holding companies with one subsidiary only.	Omission Final Account of Banking Companies.

SUGGESTED READINGS :

1. Dr. S.M. Shukla, Sahitya Bhawan Agra.
2. Dr. Mangal Mehta & Agrawal Published - Indore.
3. Dr. Karim Khanuja - Published - Agra.
4. Gupta R.L., Radhaswamy M; Company Accounts; Sultan Chand & Sons, New Delhi.

Group - II PAPER - I (COST ACCOUNT)

OBJECTIVE

This course exposes the students to the basic concepts and the tools used in cost accounting.

Current Syllabus		Proposed Syllabus	Remark
UNIT-I	Introduction : Nature and scope of cost accounting ; Cost concepts and classification; Methods and techniques; Installation of costing system; Concept of cost audit. Accounting for Material : Material Control; Concept and techniques; Pricing of material issues; Treatment of material losses.	UNIT-I Introduction : Nature and scope of cost accounting ; Cost concepts and classification; Methods and techniques; Installation of costing system; Concept of cost audit. Accounting for Material : Material Control; Concept and techniques; Pricing of material issues; Treatment of material losses.	
UNIT-II	Accounting for Labour : Labour cost control procedure; Labour turnover; Idle time and overtime; Methods of wage payment - time and piece rates; Incentive schemes. Accounting for overheads; Classification and departmentalization; Absorption of overheads; Determination of overhead rates; Under and over absorption, and its treatment.	UNIT-II Accounting for Labour : Labour cost control procedure; Labour turnover; Idle time and overtime; Methods of wage payment - time and piece rates; Incentive schemes. Accounting for overheads; Classification and departmentalization; Absorption of overheads; Determination of overhead rates; Under and over absorption, and its treatment.	
UNIT-III	Cost Ascertainment : Unit costing; Job, batch and contract costing.	UNIT-III Cost Ascertainment : Unit costing; Job, batch and contract costing.	
UNIT-IV	Operating costing; Process Costing - excluding inter - process profits, and joint and by - products.	UNIT-IV Operating costing; Process Costing - excluding inter - process profits, and joint and by - products.	
UNIT-V	Cost Records : Intergal and non - integral system; Reconciliation of cost and financial accounts; Break Even Point.	UNIT-V Cost Records : Intergal and non - integral system; Reconciliation of cost and financial accounts; Break Even Point.	

SUGGESTED READINGS :

1. M.L. Agrawal : Sahitya Bhawan Agra.
2. Maheshwari S.N. : Advanced Problems and Solutions in Cost Accounting; Sultan Chand, New Delhi.
3. Arora M.N. : Cost Accounting - Principles and Practice; Vikas, New Delhi.
4. Jain S.P. and Narang K.L. : Cost Accounting; Kalyani New Delhi.

Group - II - PAPER - II
PRINCIPLES OF BUSINESS MANAGEMENT

OBJECTIVE

This Course familiarizes the students with the basics of principles of management.

Current Syllabus		Proposed Syllabus	Remark
UNIT-I	Introduction : Concept, nature, process, and significance of management; management roles (Mintzberg); An overview of functional areas of management; Development management thought; Classical and neo-classical systems; Concept approaches.	UNIT-I Introduction : Concept, nature, process, and significance of management; management roles (Mintzberg); An overview of functional areas of management; Development management thought; Classical and neo-classical systems; Concept approaches.	
UNIT-II	Planning : Concept, process and types. Decision making - concept and Bounded rationality; Management by objectives; Corporate planning; Environment analysis and diagnosis; Strategy formulation.	UNIT-II Planning : Concept, process and types. Decision making - concept and Bounded rationality; Management by objectives; Corporate planning; Environment analysis and diagnosis; Strategy formulation.	
UNIT-III	Organizing : Concept, nature, process and significance; Authority and resident relationships; Centralization and decentralization; Departmentation; Organization structure - forms and contingency factors.	UNIT-III Organizing : Concept, nature, process and significance; Authority and resident relationships; Centralization and decentralization; Departmentation; Organization structure - forms and contingency factors.	
UNIT-IV	Motivating and Leading People at work : Motivation - concept; Theories Herzberg, McGregor, and Ouchi; Financial and non-financial incentives. Leadership - concept and leadership styles; Leadership theories (Tannenb Schmidt.); Likert's System Management; Communication - nature, process, networks, and barriers, Effective Communication.	UNIT-IV Motivating and Leading People at work : Motivation - concept; Theories Herzberg, McGregor, and Ouchi; Financial and non-financial incentives. Leadership - concept and leadership styles; Leadership theories (Tannenb Schmidt.); Likert's System Management; Communication - nature, process, networks, and barriers, Effective Communication.	
UNIT-V	Managerial Control : Concept and process; Effective control system; Technical control - traditional and modern. Management of Change : Concept, nature, and process of planned Resistance to change; Emerging horizons of management in a environment.	UNIT-V Managerial Control : Concept and process; Effective control system; Technical control - traditional and modern. Management of Change : Concept, nature, and process of planned Resistance to change; Emerging horizons of management in a environment.	

SUGGESTED READINGS :

1. Dr. R.C. Agrawal, Agra.
2. Dr. S.C. Saxena, Agra.
3. Wehrich and Koontz, et al : Essentials of Management; Tata McGraw Hill, New Delhi.

Group - III - PAPER - I

BUSINESS STATISTICS

O BJECTIVE

It enable the students to gain understanding of statistical techniques as are applicable to business.

Current Syllabus		Proposed Syllabus		Remark	
UNIT-I	Introduction : Statistics as a subject; Descriptive Statistics - compared to Inferential Statistics; Types of data; Summation operation; Rules of Sigma E operations, Analysis of University Data; Construction of a frequency distribution; Concept of central tendency.	UNIT-I	Introduction : Statistics as a subject; Descriptive Statistics - compared to Inferential Statistics; Types of data; Summation operation; Rules of Sigma E operations, Analysis of University Data; Construction of a frequency distribution; Concept of central tendency.		
UNIT-II	Dispersion - and their measures; Partition values; Moments; Skewness and measures; Kurtosis and measures.	UNIT-II	Dispersion - and their measures; Partition values; Skewness and measures;	Omission of movements & Kurtosis	
UNIT-III	Analysis of Bivariate Data : Linear regression two variables and correlation.	UNIT-III	Analysis of Bivariate Data : Linear regression two variables and correlation.		
UNIT-IV	Index Number; Meaning, types, and uses; Methods of Constructing price and quantity indices (simple and aggregate); Tests of adequacy; Chain - base index numbers; Base shifting, splicing and deflating; Problems in constructing index numbers; Consumer price index. Analysis of Time Series : Cause of Variation in time series data; Components of a time series; Decomposition - Additive and Multiplicative models; Determination of trend - Moving Averages Method and method of least squares (including linear, second degree, parabolic, and exponential trend); Computation of seasonal indices by simple averages, ratio - to - trend, ratio - to - moving average, and link relative methods.	UNIT-IV	Index Number; Meaning, types, and uses; Methods of Constructing price and quantity indices (simple and aggregate); Tests of adequacy; Chain - base index numbers; Base shifting, splicing and deflating; Problems in constructing index numbers; Consumer price index. Analysis of Time Series : Cause of Variation in time series data; Components of a time series; Decomposition - Additive and Multiplicative models; Determination of trend - Moving Averages Method and method of least squares (including linear, second degree, parabolic, and exponential trend); Computation of seasonal indices by simple averages, ratio - to - trend, ratio - to - moving average, and link relative methods.		
UNIT-V	Forecasting and Methods : Forecasting - concept, types and importance; General approach to forecasting; Methods of forecasting; demand; Industry Vs Company sales forecast; Factors affecting company sales. Theory of Probability : as a concept; The three approaches to defining probability; Addition and multiplication laws of probability; Conditional Probability; Bayes' Theorem; Expectation and Variance of a random variable.	UNIT-V	Forecasting and Methods : Forecasting - concept, types and importance; General approach to forecasting; Methods of forecasting; demand; Industry Vs Company sales forecast; Factors affecting company sales. Theory of Probability : as a concept; The three approaches to defining probability; Addition and multiplication laws of probability; Conditional Probability; Bayes' Theorem; Expectation and Variance of a random variable.		

SUGGESTED READINGS :

1. S.M.Shukla, Shahitya Bhawan, Agara.
2. Statistical Analysis, Dr. Rajesh Shukla and J.B. Agrawal

Group - I - PAPER - II
COMPANY LAW

OBJECTIVE

This objective of this course is to provide basic knowledge of the provisions Companies Act. 2013, along with relevant case law.

Current Syllabus	Proposed Syllabus	Remark
UNIT-I Corporate personalities; Kinds of Companies, Nature & Scope, promotion on and incorporation of companies.	UNIT-I Corporate personalities; Kinds of Companies, Nature & Scope, promotion on and incorporation of companies.	
UNIT-II Memorandum of Association; Articles of Association; Prospectus, Shares; share capital - transfer and transmission.	UNIT-II Memorandum of Association; Articles of Association; Prospectus, Shares; share capital - transfer and transmission.	
UNIT-III Capital management - borrowing powers, mortgages and charges, debentures. Directors - Managing Director, whole time director, Appointment, Remuneration, and duties.	UNIT-III Capital management - borrowing powers, mortgages and charges, debentures. Directors - Managing Director, whole time director, Appointment, Remuneration, and duties.	
UNIT-IV Company meetings - kinds, Notice, quorum, voting, proxy, resolutions, minutes.	UNIT-IV Company meetings - kinds, Notice, quorum, voting, proxy, resolutions, minutes.	
UNIT-V majority powers and minority rights; Prevention of oppression and mismanagement. Winding up - kinds and conduct.	UNIT-V majority powers and minority rights; Prevention of oppression and mismanagement. Winding up - kinds and conduct.	

SUGGESTED READINGS :

1. Singh Avtar : Company Law; Eastern Book Co., Lucknow.
2. Dr. S.M. Shukla, Shahitya Bhawan Agra.
3. Dr. R.C. Agrawal, Shahitya Bhawan Agra.
4. Kapoor N.D. : Company Law - Incorporating the Provisions of the companies Amendment Act, 2013 Chand & Sons, New Delhi.

Group - III PAPER - II
FUNDAMENTALS OF ENTREPRENEURSHIP

OBJECTIVE

It Provides exposure to the students to the entrepreneurial culture and industrial growth so as to preparing them to set up and manage their own small units.

Current Syllabus		Proposed Syllabus		Remark
UNIT-I Introduction : The entrepreneur; Definition; Emergence of entrepreneurial class; Theories of entrepreneurship; Role of socio - economic environment; Characteri-stics.		UNIT-I Introduction : The entrepreneur; Definition; Emergence of entrepreneurial class; Theories of entrepreneurship; Role of socio - economic environment; Characteri-stics.		
UNIT-II Promotion of a Venture; Opportunities analysis; External environmental analysis economic, social and technological; Competitive factors; Legal requirements for establishment of a new unit, and raising of funds; Venture capital sources and documentation required.		UNIT-II Promotion of a Venture; Opportunities analysis; External environmental analysis economic, social and technological; Competitive factors; Legal requirements for establishment of a new unit, and raising of funds; Venture capital sources and documentation required.		
UNIT-III Entrepreneurial Behavior : Innovation and entrepreneur; Entrepreneurial behavior and Psycho - Theories, Social responsibility.		UNIT-III Entrepreneurial Behavior : Innovation and entrepreneur; Entrepreneurial behavior and Psycho - Theories, Social responsibility.		
UNIT-IV Entrepreneurial Development Programs (EDP) : EDP, their role, relevance, and achievements; Role of Government in organizing EDPs; Critical evaluation.		UNIT-IV Entrepreneurial Development Programs (EDP) : EDP, their role, relevance, and achievements; Role of Government in organizing EDPs; Critical evaluation.		
UNIT-V Role of Entrepreneur : Role of an entrepreneur in economic growth as an innovator, generation of employment opportunities, complementing and supplementing economic growth, bringing about social stability and balanced regional development of industries; Role in export promotion and import substitution, forex earnings, and augmenting and meeting local demand.		UNIT-V Role of Entrepreneur : Role of an entrepreneur in economic growth as an innovator, generation of employment opportunities, complementing and supplementing economic growth, bringing about social stability and balanced regional development of industries; Role in export promotion and import substitution, forex earnings, and augmenting and meeting local demand.		

SUGGESTED READINGS :

3. Srivastava S.B. : A Practical Guide to industrial Entrepreneurs; Sultan Chand and Sons, New Delhi.
4. Tandon B.C. : Environment and Entrepreneur; Chugh Publications, Allahabad.
5. Prasanna Chandra : Project Preparation, Appraisal, Implementation; Tata McGrow Hill, New Delhi.

COMPUTER APPLICATION
MARKS DISTRIBUTION PAPER - I
INTERNET APPLICATION & E-COMMERCE

Current Syllabus	Proposed Syllabus	Remark
<p>UNIT - I Introduction to HTML</p> <p>Introduction to Internet & World Wide Web</p> <p>Internet- Indian and the Internet, Profile of Indian Surfer, History of the Internet, Indian Internet History, Technological Foundation of Internet, Application in Internet Environment, Movement of files/data between two computers, TCP/IP, IP Addresses, Domain Name System, Domain Name Services, allocation of second level domains in India, Internet & India.</p> <p>World Wide Web (WWW) - WWW consortium browsing and Information retrieval, exploring the WWW, address : URL.</p>	<p>UNIT - I Introduction to HTML</p> <p>Introduction to Internet & World Wide Web</p> <p>Internet- Indian and the Internet, Profile of Indian Surfer, History of the Internet, Indian Internet History, Technological Foundation of Internet, Application in Internet Environment, Movement of files/data between two computers, TCP/IP, IP Addresses, Domain Name System, Domain Name Services, allocation of second level domains in India, Internet & India.</p> <p>World Wide Web (WWW) - WWW consortium browsing and Information retrieval, exploring the WWW, address : URL.</p>	
<p>UNIT - II</p> <p>Introduction to HTML & Designing Web Page</p> <p>Concept to Website, Web standards, What is HTML, HTML documents / file, HTML Editor, Explanation of the structure of Homepage, Elements in HTML Documents, HTML Elements, HTML Tags & Basic HTML Tags, viewing the source of web page & downloading the web page source, Extensible HTML, CSS, XML, XSL.</p> <p>HTML Document Structure - Head Section</p> <p>IIustration of Document Structure, Mark-up elements within the Head : BASE, ISINDEX, LINK, META, TITLE, SCRIPT.</p>	<p>UNIT - II</p> <p>Introduction to HTML & Designing Web Page</p> <p>Concept to Website, Web standards, What is HTML, HTML documents / file, HTML Editor, Explanation of the structure of Homepage, Elements in HTML Documents, HTML Elements, HTML Tags & Basic HTML Tags, viewing the source of web page & downloading the web page source, Extensible HTML, CSS, XML, XSL.</p> <p>HTML Document Structure - Head Section</p> <p>IIustration of Document Structure, Mark-up elements within the Head : BASE, ISINDEX, LINK, META, TITLE, SCRIPT.</p>	
<p>UNIT - III</p> <p>HTML Document Structure & HTML Forms</p> <p>Body Section - IIustration, Body elements,</p>	<p>UNIT - III</p> <p>HTML Document Structure & HTML Forms</p> <p>Body Section - IIustration, Body</p>	

<p>Background, TEXT BODY element, ADDRESS, BLOCKQUOTE, TABLE, COMMENTS, CHARACTER Emphasis modes, Logical styles, Physical Styles, FONT, BASEFONT and CENTER.</p> <p>Image, Internal and External Linking Between Web Pages - IMG Elements, HEIGHT, WIDTH, ALT, ALLIGN, IIllustration of IMG elements, Hypertext Anchors, NAME attribute in Anchor.</p> <p>HTML Forms - Forms, Form tag, Form Structure, Input types, Drop down menu or select menu tags, image buttons.</p>	<p>elements, Background, TEXT BODY element, ADDRESS, BLOCKQUOTE, TABLE, COMMENTS, CHARACTER Emphasis modes, Logical styles, Physical Styles, FONT, BASEFONT and CENTER.</p> <p>Image, Internal and External Linking Between Web Pages - IMG Elements, HEIGHT, WIDTH, ALT, ALLIGN, IIllustration of IMG elements, Hypertext Anchors, NAME attribute in Anchor.</p> <p>HTML Forms - Forms, Form tag, Form Structure, Input types, Drop down menu or select menu tags, image buttons.</p>	
<p>UNIT - IV</p> <p>Introduction to E-Commerce & Business Strategy in Electronic Age</p> <p>E-Commerce - Scope & definition of language, E-commerce & Trade cycle, E-markets, E-Data Interchange, Internet Commerce, E-commerce in Perspective.</p> <p>Business Strategy - The value chain, competitive advantage, business strategy, Case-Study : e-commerce in Passenger Air Transport.</p>	<p>UNIT - IV</p> <p>Introduction to E-Commerce & Business Strategy in Electronic Age</p> <p>E-Commerce - Scope & definition of language, E-commerce & Trade cycle, E-markets, E-Data Interchange, Internet Commerce, E-commerce in Perspective.</p> <p>Business Strategy - The value chain, competitive advantage, business strategy, Case-Study : e-commerce in Passenger Air Transport.</p>	
<p>UNIT - V</p> <p>B to B e-Commerce & B to C e-Commerce</p> <p>Business to Business e-Commerce - Inter-organisational Transactions, Electronic markets, Electronic Data Interchange (EDI) - the nuts and bolts, EDI and business, Inter roganizational e-Commerce.</p> <p>Business to Consumer e-Commerce - Consumer trade transactions.</p> <p>The elements of e-Commerce - elements, e-visibility, e-shop online payments, delivering the goods, after sales service, Internet e-Commerce Security A web site evaluation model.</p> <p>e-Business - Introduction, Internet Bookshops, Software Supplies & support, e-newspapers, internet banking, virtual auctions, online share dealing, gambling on net, e-diversity.</p>	<p>UNIT - V</p> <p>B to B e-Commerce & B to C e-Commerce</p> <p>Business to Business e-Commerce - Inter-organisational Transactions, Electronic markets, Electronic Data Interchange (EDI) - the nuts and bolts, EDI and business, Inter roganizational e-Commerce.</p> <p>Business to Consumer e-Commerce - Consumer trade transactions.</p> <p>The elements of e-Commerce - elements, e-visibility, e-shop online payments, delivering the goods, after sales service, Internet e-Commerce Security A web site evaluation model.</p> <p>e-Business - Introduction, Internet Bookshops, Software Supplies & support, e-newspapers, internet banking, virtual auctions, online share dealing, gambling on net, e-diversity.</p>	

COMPUTER APPLICATION
PAPER - II
RELATIONAL DATABASE MANAGEMENT SYSTEM

Current Syllabus	Proposed Syllabus	Remark
<p>UNIT - I</p> <p>DATABASE SYSTEM CONCEPT & ENTITY RELATIONSHIP MODEL :</p> <p>Operational data, why database, data independence, an Architecture for a Data base system, DDL & DML, Data Dictionary, Data Structures and Corresponding Operators, Data Models, The Relational approach, The Network approach, DBMS storage structure and access method. Entity-Relationship model as a tool for conceptual design-entities attributes and relationships. ER diagrams; strong and weak entities Generalization; Specialization and aggregation. Converting and ER-model into relational.</p>	<p>UNIT - I</p> <p>DATABASE SYSTEM CONCEPT & ENTITY RELATIONSHIP MODEL :</p> <p>Operational data, why database, data independence, an Architecture for a Data base system, DDL & DML, Data Dictionary, Data Structures and Corresponding Operators, Data Models, The Relational approach, The Network approach, DBMS storage structure and access method. Entity-Relationship model as a tool for conceptual design-entities attributes and relationships. ER diagrams; strong and weak entities Generalization; Specialization and aggregation. Converting and ER-model into relational.</p>	
<p>UNIT - II</p> <p>Relational Database Management System</p> <p>Relational Model : Structure to Relational Database, Relational Algebra, The Domain Relational, Calculus, Extended Relational- Algebra Operation, Modification of database, Views. Relational Database Design :- Pitfalls in Relational Database Design, Decomposition, Functional Dependencies, Normalization : 1NF, 2NF, BCNF, 3NF, 4NF, 5NF operations not involving cursors, Operations involving cursors, dynamic statements, security & integrity security specification in SQL.</p>	<p>UNIT - II</p> <p>Relational Database Management System</p> <p>Relational Model : Structure to Relational Database, Relational Algebra, The Domain Relational, Calculus, Extended Relational- Algebra Operation, Modification of database, Views. Relational Database Design :- Pitfalls in Relational Database Design, Decomposition, Functional Dependencies, Normalization : 1NF, 2NF, BCNF, 3NF, 4NF, 5NF operations not involving cursors, Operations involving cursors, dynamic statements, security & integrity security specification in SQL.</p>	

<p>UNIT - III</p> <p>RELATIONAL DATABASE DESIGN :</p> <p>Relational Algebra, Traditional Set Operations, Attributes Names for Derived Relations, special relational operations, further normalization, functional dependence. First, second and third normal forms, BCNF Forms, relations with more than one candidate key, Good and bad decompositions, fourth normal form, fifth normal form, De-normalization.</p>	<p>UNIT - III</p> <p>RELATIONAL DATABASE DESIGN :</p> <p>Relational Algebra, Traditional Set Operations, Attributes Names for Derived Relations, special relational operations, further normalization, functional dependence. First, second and third normal forms, BCNF Forms, relations with more than one candidate key, Good and bad decompositions, fourth normal form, fifth normal form, De-normalization.</p>	
<p>UNIT - IV</p> <p>Introduction to RDBMS Software - Oracle</p> <p>(a) Introduction : Introduction to personnel and Enterprises Oracle, Data Types, Commercial Query Language, SQL, SQL * PLUS.</p> <p>(b) DDL and DML : Creating Table, Specify Integrity Constraint, Modifying Existing Table, Dropping Table, Inserting, Deleting and Updating Rows in as Table, Where Clause, Operators, ORDER BY, GROUP Function, SQL Function, JOIN, Set Operation, SQL Sub Queries. Views : What is Views, Create, Drop and Retrieving data from views.</p>	<p>UNIT - IV</p> <p>Introduction to RDBMS Software - Oracle</p> <p>(a) Introduction : Introduction to personnel and Enterprises Oracle, Data Types, Commercial Query Language, SQL, SQL * PLUS.</p> <p>(b) DDL and DML : Creating Table, Specify Integrity Constraint, Modifying Existing Table, Dropping Table, Inserting, Deleting and Updating Rows in as Table, Where Clause, Operators, ORDER BY, GROUP Function, SQL Function, JOIN, Set Operation, SQL Sub Queries. Views : What is Views, Create, Drop and Retrieving data from views.</p>	
<p>UNIT - V</p> <p>(a) Security : Management of Roles, Changing Password, Granting Roles & Privilege, with drawing privileges.</p> <p>(b) PL/SQL : Block Structure in PL/SQL, Variable and constants, Running PL/SQL in the SQL*PLUS, Data base Access with PL/SQL, Exception Handling, Record Data type in PL/SQL, Triggers in PL/SQL.</p>	<p>UNIT - V</p> <p>(a) Security : Management of Roles, Changing Password, Granting Roles & Privilege, with drawing privileges.</p> <p>(b) PL/SQL : Block Structure in PL/SQL, Variable and constants, Running PL/SQL in the SQL*PLUS, Data base Access with PL/SQL, Exception Handling, Record Data type in PL/SQL, Triggers in PL/SQL.</p>	

**SYLLABUS
B.COM. PART-III**

**GROUPING OF SUBJECTS AND SCHEME OF
EXAMINATION**

Subject		Max.	Min.
Foundation Course			
I. Hindi Language		75	26
II. English Language		75	26
Compulsory Groups			
Group-I			
I. Income Tax	75	150	50
II. Auditing	75		
Group-II			
I. Indirect Taxes	75	150	50
II. Management Accounting	75		
Group-III Optional			
Option Group A (Finance Area)			
I. Financial Management	75	150	50
II. Financial Market Operations	75		
Option Group B (Marketing Area)			
I. Principles of Marketing	75	150	50
II. International Marketing	75		
Option Group C (Commercial Area)			
I. Information Technology and its Applications in Business	75	150	50
II. Essential of e-Commerce	75		
Option Group D (Money Banking & Insurance Area)			
I. Fundamental of Insurance	75	150	50
II. Money & Banking System	75		

B.COM PART III

COMPULSORY CORE COURSE

TITLE OF PAPER - Group-I - PAPER – I - INCOME TAX

OBJECTIVE

It enables the students to know the basics of Income Tax Act and its implications.

M.M. 75

Present syllabus	Proposed syllabus	Remark
UNIT-I Basic Concepts : Income, agricultural Income, casual income, assessment year, previous year, gross total income, total income, person. Basis of charge : Scope of total income, residence and tax liability, income which does not form part of total income.	UNIT-I Basic Concepts : Income, agricultural Income, casual income, assessment year, previous year, gross total income, total income, person. Basis of charge : Scope of total income, residence and tax liability, income which does not form part of total income.	No change
UNIT-II Heads of Income : Salaries; Income from house property.	UNIT-II Heads of Income : Salaries; Income from house property.	No change
UNIT-III Profit and gains of business or profession, including provisions relating to specific business; Capital gains, Income from other sources.	UNIT-III Profit and gains of business or profession, including provisions relating to specific business; Capital gains, Income from other sources.	No change
UNIT-IV Computation of Tax Liability : Set-off and carry forward of losses; Deduction from gross total income. Aggregation of income; Computation of total income and tax liability of and individual, H.U.F., and firm.	UNIT-IV Computation of Tax Liability : Set-off and carry forward of losses; Deduction from gross total income. Aggregation of income; Computation of total income and tax liability of individual and & HUF,	Omitted firm.
UNIT-V Tax Management : Tax deduction at source; Advance payment of tax; Assessment procedures; Tax planning for individuals. Tax evasion, Tax Avoidance and Tax planning. Tax	UNIT-V Tax Management : Tax deduction at source; Advance payment of tax; Assessment procedures; Tax planning for individuals. Tax evasion, Tax Avoidance and Tax planning. Tax	Addition of practical work relating important

Administration : Authorities, appeals, penalties.	Administration : Authorities, appeals, penalties. Preparation of return of income -Manually and on line	forms.
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Suggested Reading :

1. Singhanian V.K. : Students Guide to Income Tax; Taxmann, Delhi.
2. Prasad, Bhagwati : Income Tax Law & Prectice; Wily Publication, New Delhi.
3. Mehrotra H.C. : Income Tax Law & Accounts : Sahitya Bhawan, Agra.
4. Girish Ahuja and Ravi Gupta : Systematic approach to income tax : Sahitya Bhawan Publications, New Delhi.
5. Chandra Mahesh and Shukla D.C. : Income Tax Law and Practice; Pragati Publications, New Delhi.
6. R.K. Jain : Income Tax & Law (Hindi & English) Shahitya Bhavan, Publication, Agra

B.COM PART III

COMPULSORY CORE COURSE

Group-II - PAPER – I - **INDIRECT TAXES WITH GST**

PAPER – II

OBJECTIVE

This course aims at imparting basic knowledge about GST and apply the provisions of GST law to various situations.

M.M. 75

Present syllabus	Proposed syllabus	Remark
UNIT-I Central Excise : Nature and scope of Central Excise; Important terms and definitions under the Central Excise Act; General procedures of central excise; Clearance and excisable goods; Concession to small scale industry under Central Excise Act.	UNIT-I Customs : Role of customs in international trade; Important terms and definitions goods; Duty; Exporter; Foreign going vessel; Aircraft goods; Import; Import Manifest; Importer; Prohibited goods; Shipping bill; Store; Bill of lading; Export manifest; Letter of credit; Kinds of duties - basic, auxillary, additional or countervailing; Basics of levy ad valorem, specific duties; Prohibition of export and import of goods, and provisions regarding notified & specified goods; Import of goods - Free import and restricted import; Type of import - import of cargo, import of personal baggage, import of stores. Clearance Procedure - For home consumption, for warehousing for re-export; Clearance procedure for import by post; Prohibited exports; Canalised exports; Export against licensing; Type of exports export of cargo, export of baggage; Export of cargo by land, sea, and air routes.	Due to – Constitutional amendment (change in tax structure)
UNIT-II State Excise, CENVAT. Detail study of State Excise during calculation of Tax.	UNIT-II State Excise, CENVAT. Detail study of State Excise during calculation of Tax.	
UNIT-III Customs : Role of customs in international	UNIT-III INTRODUCTION TO GOODS AND	

<p>trade; Important terms and definitions goods; Duty; Exporter; Foreign going vessel; Aircraft goods; Import; Import Manifest; Importer; Prohibited goods; Shipping bill; Store; Bill of lading; Export manifest; Letter of credit; Kinds of duties - basic, auxiliary, additional or countervailing; Basics of levy ad valorem, specific duties; Prohibition of export and import of goods, and provisions regarding notified & specified goods; Import of goods - Free import and restricted import; Type of import - import of cargo, import of personal baggage, import of stores. Clearance Procedure - For home consumption, for warehousing for re-export; Clearance procedure for import by post; Prohibited exports; Canalised exports; Export against licensing; Type of exports export of cargo, export of baggage; Export of cargo by land, sea, and air routes.</p>	<p>SERVICES TAX (GST) - Objectives and basic scheme of GST, Meaning - Salient features of GST - Subsuming of taxes - Benefits of implementing GST, Structure of GST (Dual Model) - Central GST - State / Union Territory GST - Integrated GST GST Council: Structures Power and Functions. Provisions for amendments.</p>	
<p>UNIT-IV Central Sales Tax : Important terms and definitions under the Central Sales Tax Act 1956 - Dealer, declared good, place of business, sale, sale price, turnover, year, appropriate authority ; Nature and scope of Central Sales Tax Act; Provisions relating to inter-state sales; Sales in and outside a state; Sales/purchase in the course of imports and exports out of India. Registration of dealers and procedure thereof; Rate of tax; Exemption of subsequent sales; Determination of</p>	<p>UNIT-IV Registration under GST: Procedure for registration, Persons liable for registration, Persons not liable for registration, Compulsory registration. Exempted goods and services - Rates of GST. Procedure relating to Levy: (CGST & SGST): Scope of supply, Tax liability on Mixed and Composite supply, Time of supply of goods and services, Value of taxable supply. Way-Billing</p>	

B.COM PART III

OPTIONAL GROUP A (Finance Area)

TITLE OF PAPER - FINANCIAL MARKET OPERATIONS

OBJECTIVE

PAPER – II

This course aims at acquainting the students with the working of financial markets in India.

M.M. 75

Present syllabus	Proposed syllabus	Remark
UNIT-I Money Market : Indian money market's composition and structure; (a) Acceptance houses, (b) Discount houses and (c) Call money market; Recent trends in Indian money market.	UNIT-I Money Market : Indian money market's composition and structure; (a) Acceptance houses, (b) Discount houses and (c) Call money market; Recent trends in Indian money market.	No change
UNIT-II Capital Market : Security market - (a) New issue market, (b) Secondary market; Functions and role of stock exchange; listing procedure and legal requirements; Public issue - pricing and marketing; Stock exchanges - National Stock Exchange and over the counter exchanges.	UNIT-II Capital Market : Security market - (a) New issue market, (b) Secondary market; Functions and role of stock exchange; listing procedure and legal requirements; Public issue - pricing and marketing; Stock exchanges - National Stock Exchange ,Bombay stock exchange	Omitted over the counter exchanges and added Bombay stock exchange
UNIT-III Securities contract and Regulations Act : Main provisions. Investors Protection : Grievances concerning stock exchange dealings and their removal; Grievance cells in stock exchanges; SEBI; Company Law Board; Press; Rmedy through courts.	UNIT-III Securities contract and Regulations Act : Main provisions. Investors Protection : Grievances concerning stock exchange dealings and their removal; Grievance cells in stock exchanges; SEBI; Company Law Board; Press; Rmedy through courts.	No change
UNIT-IV Functionaries on Stock Exchanges : Brokers, sub brokers, market makers, jobbers, portfolio consultants, institutional investors, and NRIs.	UNIT-IV Functionaries on Stock Exchanges : Brokers, sub brokers, market makers, jobbers, portfolio consultants, institutional investors, and NRIs.	No change
UNIT-V Financial Services : Marchant banking -	UNIT-V Financial Services : Marchant banking -	No change

working capital, significance of working capital, operating cycle and factors determining of working capital requirements, Management of working capital - cash, receivables, and inventories.	working capital, significance of working capital, operating cycle and factors determining of working capital requirements, Management of working capital - cash, receivables, and inventories.	
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Suggested Reading :

1. Van Home J.C. : Financial Management and Policy; Prentice Hall of India, New Delhi.
2. Khan M.Y. and Jain P.K. : Financial Management, Text and Problems; Tata McGraw Hill, New Delhi.
3. Prasanna Chandra L. Financial Management Theory and practice; Tata McGraw Hill, New Delhi.
4. Pandey I.M. : Financial Management Vikas Publishing Hous, New Delhi.
5. Brigham E.F. Gapenski L.C., and Ehrhardt M.C. : Financial Management - Theory and Practice; Harcourt College Publishers, Singapore.
6. Bhalla V.K. : Modern Working Capital Management, Anmol Pub. Delhi.

B.COM PART III

OPTIONAL GROUP A (Finance Area)

TITLE OF PAPER - FINANCIAL MANAGEMENT

PAPER - I

OBJECTIVE

The objective of this course is to help students understand the conceptual framework of financial management.

M.M. 75

Present syllabus	Proposed syllabus	Remark
UNIT-I Financial Management : Financial goals; Profit vs wealth maximization; Financial functions-investment, financing, and dividend decisions; Financial planning.	UNIT-I Financial Management : Financial goals; Profit vs wealth maximization; Financial functions-investment, financing, and dividend decisions; Financial planning.	No change
UNIT-II Capital Budgeting : Nature of investment decisions, Investment evaluation criteria, payback period, accounting rate of return, net present value, internal rate of return profitability index; NPV and IRR comparison.	UNIT-II Capital Budgeting : Nature of investment decisions, Investment evaluation criteria, payback period, accounting rate of return, net present value, internal rate of return profitability index; NPV and IRR comparison.	
UNIT-III Cost of Capital : Significance of cost of capital; Calculating cost of debt; Preference shares, equity capital, and retained earnings; Combined (weighted) cost of capital. Operating and financial Leverage : Their measure; Effects on profit, analyzing alternate financial plans, combined financial and operating leverage.	UNIT-III Cost of Capital : Significance of cost of capital; Calculating cost of debt; Preference shares, equity capital, and retained earnings; Combined (weighted) cost of capital. Operating and financial Leverage : Their measure; Effects on profit, analyzing alternate financial plans, combined financial and operating leverage.	
UNIT-IV Capital Structure : Theories and determinates. Dividend Policies : Issues in dividend policies; Walter's model; Gordon's model; M.M. Hypothesis, forms of dividends and stability in dividends, determinats.	UNIT-IV Capital Structure : Theories and determinates. Dividend Policies : Issues in dividend policies; Walter's model; Gordon's model; M.M. Hypothesis, forms of dividends and stability in dividends, determinats.	
UNIT-V Management of Working Capital : Nature of	UNIT-V Management of Working Capital : Nature of	

UNIT-V Recent Trends in Auditing : Nature and significance of cost audit; Tax audit; Management audit. Company auditing - Qualification, Appointment, Resignation and liabilities.	UNIT-V Recent Trends in Auditing : Nature and significance of cost audit; Tax audit; Management audit .	Omitted company auditing - Qualification , Appointment , Resignation and Liabilities and merge it in II unit
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Suggested Reading :

1. Gupta KaPal : Contemporary Auditing : Tata Mcgraw Hill, New Delhi.
2. Tandon B.N. : Principles of Auditing : S. Chand & Co., New Delhi.
3. Pagare Dinkar : Principles and Practice of Auditing : Sultan Chand, New Delhi.
4. Sharma T.R. : Auditing Principles and Problems, Sahitya Bhawan, Agra.
5. Shukla S.M. : Auditing - Shahitya Bhavan, Agra, (Hindi)
6. Batliboy : Auditing.

B.COM PART III

COMPULSORY CORE COURSE

TITLE OF PAPER - Group-I - PAPER – II - AUDITING

OBJECTIVE

This course aims at imparting knowledge about the principles and methods of auditing and their applications.

M.M. 75

Present syllabus	Proposed syllabus	Remark
UNIT-I Introduction : Meaning and objectives of auditing; Types of audit; Internal audit.Audit Process : Audit programme; Audit note books; Working papers and evidences.	UNIT-I Introduction : Meaning and objectives of auditing; Types of audit; Internal audit.Audit Process : Audit programme; Audit note books; Working papers and evidences.	No change
UNIT-II Internal Check System : Internal control. Audit Procedure : Vouching : Verification of assets and liabilities.	UNIT-II Internal Check System : Internal control. Audit Procedure : Vouching : Verification of assets and liabilities.	No change
UNIT-III Audit of Limited Companies : a. Company auditor - Appointment, powers, duties, and liabilities. b. Divisible profits and dividend. c. Auditor's report - standard report and qualified report. d. Special audit of banking companies. e. Audit of educational institutions. f. Audit of Insurance companies.	UNIT-III Audit of Limited Companies : a. Company auditor –Qualification, Appointment, powers, duties, Resignation and liabilities. b. Divisible profits and dividend. c. Auditor's report - standard report and qualified report. d. Special audit of banking companies. e. Audit of educational institutions. f. Audit of Insurance companies.	Added Qualification and Resignation of company auditor
UNIT-IV Investigation : Investigation; Audit of non profit companies, a. Where fraud is suspected, and b. When a running a business is proposed. c. Varifications & Valuation of assets.	UNIT-IV Investigation : Investigation; Audit of non profit companies, a. Where fraud is suspected, and b. When a running a business is proposed. c. Varifications & Valuation of assets.	No change

flexible budgeting; Control ratios; Zero base budgeting; Responsibility accounting; Performance budgeting.	flexible budgeting; Control ratios; Zero base budgeting; Responsibility accounting; Performance budgeting.	
UNIT-V Standard Costing and Variance Analysis : Meaning of standard cost and standard costing; Advantages and application; Variance analysis - material; Labour and overhead (Two-way analysis); Variances.	UNIT-V Standard Costing and Variance Analysis : Meaning of standard cost and standard costing; Advantages and application; Variance analysis - material; Labour and overhead (Two-way analysis); Variances.	

Suggested Reading :

1. Arora M.N. : Cost Accounting - Principles and Practice, Vikas, New Delhi.
2. Jain S.P. & Narang K.L. : Cost Accounting; Kalyani, New Delhi.
3. Anthony, Rogert & Reece, at al : Principles of Management Accounting; Richard Irwin Inc.
4. Horngren, Charles, Foster and Datar et al : Cost Accounting - A Managerial Emphasis; Prentice Hall, New Delhi.
5. Khan M.Y. and Jain P.K. : Management Accounting : Tata McGraw Hill, New Delhi.
6. Kaplan R.S. and Atkonson A.A. : Advanced Management Accounting; Printice Hall India, New Delhi.
7. J.K. Agrawal & R.K. Agrawal : Jaipur (English & Hindi).
8. Dr. M.R. Agrawal : Minakshi Prakashan Meruth.
9. Dr. S.P. Gupta - Agra (Hindi & English).

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turnover.		
UNIT-V State Commercial Tax (Chhattisgarh) Definition, Registration, Tax liability, Procedure of Computation & Collection of Tax, Penalties & Prosecution calculation of Tax. VAT Preliminary Knowledge.	UNIT-V ASSESSMENT AND RETURNS - Input tax Credit: Eligibility, Apportionment, Inputs on capital goods, Distribution of credit by Input Service Distributor (ISD) Furnishing details of outward supplies and inward supplies, First return, Annual return and Final return.	

Suggested Reading :

1. Deloitte: GST Era Beckons, Wolters Kluwer.
2. Madhukar N Hiregange: Goods and Services Tax, Wolters Kluwer.
3. All About GST: V.S Datey - Taxman's.
4. Guide to GST: CA. Rajat Mohan,
5. Goods & Services Tax – Indian Journey: N.K. Gupta & Sunnania Batia, Barat's Publication
6. Goods & Services Tax – CA. Rajat Mohan,
7. Goods & Services Tax: Dr. Sanjiv Agrawal & CA. Sanjeev Malhotra.
8. GST - Law & Practice: Dr. B.G. Bhaskara, Manjunath. N & Naveen Kumar IM,
9. Understanding GST : Kamal Garg, Barat's Publication

B.COM PART III

COMPULSORY CORE COURSE

TITLE OF PAPER - Group-II - PAPER – II -MANAGEMENT ACCOUNTING

OBJECTIVE

This course provides the students an understanding of the application of accounting techniques for management.

M.M. 75

Present syllabus	Proposed syllabus	Remark
UNIT-I Management Accounting : Meaning, nature, scope, and functions of management Accounting ; Role of management accounting in decision making; Management accounting vs financial accounting; Tools and techniques of management accounting ;Financial statement; Objectives and methods of financial statements analysis; Ratio analysis; Classification of ratios - Profitability ratios, turnover ratios, liquidity ratios,turnover ratios; Advantages of ratio analysis; Limitations of accounting ratios.	UNIT-I Management Accounting : Meaning, nature, scope, and functions of management Accounting ; Role of management accounting in decision making; Management accounting vs financial accounting; Tools and techniques of management accounting ;Financial statement; Objectives and methods of financial statements analysis; Ratio analysis; Classification of ratios - Profitability ratios, turnover ratios, liquidity ratios,turnover ratios; Advantages of ratio analysis; Limitations of accounting ratios.	No change
UNIT-II Funds Flow Statement as per Indian Accounting Standard 3, cash flow statement.	UNIT-II Funds Flow Statement as per Indian Accounting Standard 3, cash flow statement.	
UNIT-III Absorption and Marginal Costing : Marginal and differential costing as a tool for decision making - make or buy; Change of product mix; Pricing, Break-even analysis; Exploring new markets; Shutdown decisions.	UNIT-III Absorption and Marginal Costing : Marginal and differential costing as a tool for decision making - make or buy; Change of product mix; Pricing, Break-even analysis; Exploring new markets; Shutdown decisions.	
UNIT-IV Budgeting for profit Planning and control : Meaning of budget and budgetary control;Objectives; Merits and limitations; Types of budgets; Fixed and	UNIT-IV Budgeting for profit Planning and control : Meaning of budget and budgetary control;Objectives; Merits and limitations; Types of budgets; Fixed and	

B.COM PART III

OPTIONAL GROUP C (Commercial Area)

TITLE OF PAPER - INFORMATION TECHNOLOGY AND ITS APPLICATIONS IN BUSINESS

PAPER – I

OBJECTIVE

The objective of the course is to famillatize the students with the innovation information technology and how it affects business. An understanding of the group rules of these technologies will enable the students to appreciate the nitty-gritty Commerce.

M.M. 75		
Present syllabus	Proposed syllabus	Remark
UNIT-I Information Revolution and information Technology (IT) : Deployment of Business; Basic features of IT; Impact of IT on business environment and social fabric; Invention of writing; Written books; Printing Press and movable type Gutenberg's invention; Radio; telephone, wireless and satelite communication computing and dissemination of information and knowledge and convergence technologies (Internet with Wireless- WAP).	UNIT-I Information Revolution and information Technology (IT) : Deployment of Business; Basic features of IT; Impact of IT on business environment and social fabric; Invention of writing; Written books; Printing Press and movable type Gutenberg's invention; Radio; telephone, wireless and satelite communication computing and dissemination of information and knowledge and convergence technologies (Internet with Wireless-WAP).	No change
UNIT-II Fundamentals of Computer : Data, information and EDP : Data, information and concept of data and information; Levels of information from data; processing; Electronic data processing; Electronic machines; a. Number Systems and Codes : Different number systems - binary, octal decimal, hexagonal, and their conversion codes used in computers; Bed, EBCDIC, ASCII;Gray and conversions. b. Computer Arithmetic and Gates : Binary arithmetic,	UNIT-II Fundamentals of Computer : Data, information and EDP : Data, information and concept of data and information; Levels of information from data; processing; Electronic data processing; Electronic machines; a. Number Systems and Codes : Different number systems - binary, octal decimal, hexagonal, and their conversion codes used in computers; Bed, EBCDIC, ASCII;Gray and conversions. b. Computer Arithmetic and Gates : Binary arithmetic,	

starting an export business; Product selection; Market selection; Export pricing; Export finance; Documentation; Export procedures; Export assistance and incentives.	Steps in starting an export business; Product selection; Market selection; Export pricing; Export finance; Documentation; Export procedures; Export assistance and incentives. Marketing Control Process	Control Process
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Suggested Reading :

1. Bhattacharya R.L. and Varshney B. : International Marketing Management; Sultan Chand, New Delhi.
2. Bhattacharya B. : Export Marketing Strategies for Success; Global Press, New Delhi.
3. Keegan W.J. : Multinational Marketing Management; Prentice Hall, New Delhi.
4. Kriplani V. : International marketing; Prentice Hall New Delhi.
5. Taggart J.H. and Moder Mott. M.C. : The Essence of International Business; Prentice Hall New Delhi.
6. Kotler Phillip : Principles of Marketing; Prentice Hall New Delhi.
7. Fayer Weather John : International Marketing; Prentice Hall N.J.
8. Caterora P.M. and Keavenay S.M. : Marketing an international Perspective; Erwin Homewood, Illinois.
9. Paliwala, Stanely J. The Essence of International marketing; Prentice Hall, New Delhi.

Functions and roles; SEBI guide-lines; Credit rating - concept, functions, and types.	Functions and roles; SEBI guide-lines; Credit rating - concept, functions, and types.	
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Suggested Reading :

1. Chandler M.V. and Goldfeld S.M. : Economics of money and Banking, Harper and Row, New Delhi.
2. Gupta Suraj B. Monetary Economics; s. chand and Co. New Delhi.
3. Gupta Suraj B. Monetary Planning in India; Oxford, Delhi.
4. Bhole L.M. : Financial Markets and Institutions : Tata McGraw Hill, New Delhi.
5. Hooda R.P. : Indian Securities Market - Investors view point; Excell Books, New Delhi.
6. R.B.I. : Functions and Working.
7. R.B.I. : Report in Currency and Finance.
8. R.B.I. : Report of the Committee to Review the working of the Monetary system
Chakravarty committee.
9. R.B.I. : Report of the Committee on the Financial System, Narsimham Committee.

B.COM PART III

OPTIONAL GROUP B (Marketing Area)

TITLE OF PAPER - PRINCIPLES OF MARKETING

PAPER – I

OBJECTIVE

The Objective of this course is to help students to understand the concept of marketing and its applications.

M.M. 75

Present syllabus	Proposed syllabus	Remark
UNIT-I Introduction : Nature and scope of marketing; Importance of marketing as a business function, and in the economy; Marketing concepts - traditional and modern; Selling vs. marketing; Marketing mix; Marketing environment.	UNIT-I Introduction : Nature and scope of marketing; Importance of marketing as a business function, and in the economy; Marketing concepts - traditional and modern; Selling vs. marketing; Marketing mix; Marketing environment.	No change
UNIT-II Consumer Behaviour and Market Segmentation : Nature, scope, and significance of consumer behaviour; Market segmentation - concept and importance; Bases for market segmentation.	UNIT-II Consumer Behaviour and Market Segmentation : Nature, scope, and significance of consumer behaviour; Market segmentation - concept and importance; Bases for market segmentation.	No change
UNIT-III Product : Concept of product, consumer, and industrial goods; Product planning and development; Packaging role and functions; Brand name and trade mark; after sales service; Product life cycle concept. Price : Importance of price in the marketing mix; Factors affecting price of a product/ Service ; Discounts and rebates.	UNIT-III Product : Concept of product, consumer, and industrial goods; Product planning and development; Packaging role and functions; Brand name and trade mark; after sales service; Product life cycle concept. Price : Importance of price in the marketing mix; Factors affecting price of a product/service; Discounts and rebates.	No change
UNIT-IV Distributions Channels and Physical Distribution; Distribution channels - Concept and role; Types of distribution channels. Factors affecting	UNIT-IV Distributions Channels and Physical Distribution; Distribution channels - Concept and role; Types of distribution channels. Factors affecting choice of a	No change

choice of a distribution channel; Retailer and wholesaler; Physical distribution of goods; Transportation, Warehousing, Inventory control; Order processing.	distribution channel; Retailer and wholesaler; Physical distribution of goods; Transportation, Warehousing, Inventory control; Order processing.	
UNIT-V Promotion : Methods of promotion; Optimum promotion mix; Advertising media – their relative merits and limitations; Characteristics of an effective advertisement; Personal selling; Selling as a career; Classification of successful sales person; Functions of salesman.	UNIT-V Promotion : Methods of promotion; Optimum promotion mix; Advertising media – their relative merits and limitations; Characteristics of an effective advertisement; Personal selling; Selling as a career; Classification of successful sales person; Functions of salesman. Recent development in marketing – social marketing, online marketing, Direct marketing, Services marketing, Green marketing.	Added Recent trends in marketing

Suggested Reading :

1. Philip Kotler : Marketing Management Englewood Cliffs; Prentice Hall, N.J.
2. William M. Pride and O.C. Ferrell : Marketing : Houghton - Mifflin Boston.
3. Stanton W.J. Etzel Michael J., and Walker Bruce J. Fundamentals of Marketing; McGraw Hill, New York.
4. Lamb Charles W., Hair Joseph F. and McDaniel Carl : Principles of Marketing; South- Western-Publishing, Cincinnati, Ohio.
5. Cravens David W. Hills Gerald E., Woodruff Robert B : Marketing management : Richard D. Irwin, Homewood Illinois.
6. Kotler Philip and Armstrong Gary : Principles of Marketing; Prentice Hall of India, New Delhi.
7. Dr. R.C. Agrawal, Agra.
8. Dr. S.C. Saxena Agra.
9. Dr. S.K. Jain, Hindi Granth Academi. M.P.
10. Dr. N.C. Jain

B.COM PART III

OPTIONAL GROUP B (Marketing Area)

TITLE OF PAPER - INTERNATIONAL MARKETING

PAPER – II

OBJECTIVE

This course aims at acquainting student with the operations of marketing in international environment.

M.M. 75

Present syllabus	Proposed syllabus	Remark
UNIT-I International Marketing : Nature, definition, and scope of international marketing; Domestic marketing vs. International marketing; International environment external and internal.	UNIT-I International Marketing : Nature, definition, and scope of international marketing; Domestic marketing vs. International marketing; International environment external and internal.	No change
UNIT-II Identifying and Selecting Foreign Market : Foreign market entry mode decisions. Product Planning for international Market : Product designing; Standardization vs. adaptation ; Branding and packaging; Labeling and quality issues; After sales service. International Pricing : Factors Influencing International price; Pricing process-process and methods; International price quotation and payment terms.	UNIT-II Identifying and Selecting Foreign Market : Foreign market entry mode decisions. Product Planning for international Market : Product designing; Standardization vs. adaptation ; Branding and packaging; Labeling and quality issues; After sales service. International Pricing : Factors Influencing International price; Pricing process-process and methods; International price quotation and payment terms.	No change
UNIT-III Promotion of Product/Services Abroad : Methods of international promotion; Direct mail and sales literature; Advertising; Personal selling; Trade fairs and exhibitions.	UNIT-III Promotion of Product/Services Abroad : Methods of international promotion; Direct mail and sales literature; Advertising; Personal selling; Trade fairs and exhibitions.	No change
UNIT-IV International Distribution : Distribution channels and logistics decisions; Selection and appointment of foreign sales agents.	UNIT-IV International Distribution : Distribution channels and logistics decisions; Selection and appointment of foreign sales agents.	No change
UNIT-V Export Policy and Practices in India : Exim policy - an overview; Trends in India's foreign trade; Steps in	UNIT-V Export Policy and Practices in India : Exim policy - an overview; Trends in India's foreign trade;	Added Marketing

<p>complements, addition subtraction; Conversion from one system to another; Logic Gates, truth table and applications minimisation, and K-maps.</p> <p>c. Computer Processing System : Definition of computer; Hardware/Software concepts; Generation of computers; Types of computers; Elements of computer; CPU and its functions, Various computer systems.</p> <p>d. I/O devices : Basic concepts of I/O devices; Various input devices Keyboard, mouse; MICR, OCR, microphones.</p> <p>e. Various output devices : VDU, printer, plotter, spooling, L.S.</p> <p>f. Storage Devices : Primary and secondary memory; Types of memory capacity and its enhancement; Memory devices and comparisons; Auxiliary storage, tapes, disks (magnetic and optical); various devices and their comparison.</p> <p>g. System Software - Role of Software, Different System Software : O.S., utilization element of O.S. - Its types and variations; DOS and windows.</p> <p>h. Computer and Networks : Need of communication; Data transmission; Baud; Bandwidth; Communication Channel; Multiplexing; Basic network concepts; O.S.I. model; Types of topologies; LAN, WAN, Client server concept.</p>	<p>complements, addition subtraction; Conversion from one system to another; Logic Gates, truth table and applications minimisation, and K-maps.</p> <p>c. Computer Processing System : Definition of computer; Hardware/Software concepts; Generation of computers; Types of computers; Elements of computer; CPU and its functions, Various computer systems.</p> <p>d. I/O devices : Basic concepts of I/O devices; Various input devices Keyboard, mouse; MICR, OCR, microphones.</p> <p>e. Various output devices : VDU, printer, plotter, spooling, L.S.</p> <p>f. Storage Devices : Primary and secondary memory; Types of memory capacity and its enhancement; Memory devices and comparisons; Auxiliary storage, tapes, disks (magnetic and optical); various devices and their comparison.</p> <p>g. System Software - Role of Software, Different System Software : O.S., utilization element of O.S. - Its types and variations; DOS and windows.</p> <p>h. Computer and Networks : Need of communication; Data transmission; Baud; Bandwidth; Communication Channel; Multiplexing; Basic network concepts; O.S.I. model; Types of topologies; LAN, WAN, Client server concept.</p>	
<p>UNIT-III Computer-based Business Applications</p> <p>a. Word Processing : Meaning and role of word processing</p>	<p>UNIT-III Computer-based Business Applications</p> <p>a. Word Processing : Meaning and role of word processing</p>	

<p>in creating of documents, editing, formatting, and printing documents, using tools such as spelling check, thesaurus, etc. in word processors (MS-Word).</p> <p>b. Electronic Spreadsheet : Structure of spreadsheet and its applications to accounting, finance, and marketing functions of business; Creating a dynamic/sensitive worksheet ; Concept of absolute and relative cell reference; Using builtin functions; Goal seeking and solver tool; Using graphics and formatting of worksheet; Sharing data with other desktop applications; Strategies of creating error-free worksheet (MS-Excel, Lotus 123). Practical knowledge on Wings Accounting (Software).</p> <p>c. Programming under a DBMS environment : The concept of data base management system; Data field, records, and files, Sorting and indexing data; Searching records, designing queries, and reports; Linking of data files ; Understanding programming environment in DBMS; Developing menu driven applications in query language (MS-Access).</p>	<p>in creating of documents, editing, formatting, and printing documents, using tools such as spelling check, thesaurus, etc. in word processors (MS-Word).</p> <p>b. Electronic Spreadsheet : Structure of spreadsheet and its applications to accounting, finance, and marketing functions of business; Creating a dynamic/sensitive worksheet ; Concept of absolute and relative cell reference; Using builtin functions; Goal seeking and solver tool; Using graphics and formatting of worksheet; Sharing data with other desktop applications; Strategies of creating error-free worksheet (MS-Excel, Lotus 123). Practical knowledge on Wings Accounting (Software).</p> <p>c. Programming under a DBMS environment : The concept of data base management system; Data field, records, and files, Sorting and indexing data; Searching records, designing queries, and reports; Linking of data files ; Understanding programming environment in DBMS; Developing menu driven applications in query language (MS-Access).</p>	
<p>UNIT-IV Electronic Data Interchange (EDI)</p> <p>Introduction to EDI; Basics of EDI; EDI standards; Financial EDI (FEDI); FEDI for international trade transaction; Applications of EDI; Advantages of EDI; Future of EDI.</p>	<p>UNIT-IV Electronic Data Interchange (EDI)</p> <p>Introduction to EDI; Basics of EDI; EDI standards; Financial EDI (FEDI); FEDI for international trade transaction; Applications of EDI; Advantages of EDI; Future of EDI.</p>	
<p>UNIT-V The Internet and its Basic Concepts Internet-concept, history development in India; Technological foundation of internet;</p>	<p>UNIT-V The Internet and its Basic Concepts Internet-concept, history development in India; Technological foundation of internet;</p>	

<p>Distributed computing; Client-server computing; Internet protocol suite; Application of distributed computing; Client-server computing; Internet protocol suite in the internet environment; Domain Name System (DNS); Domain Name Service (DNS); Generic top-level domain (gTLD); Country code top-level domain (ccTLD); - India; Location of second-level domains; IP addresses; Internet protocol; Applications of Internet in business, education, governance, etc. Information System Audit Basic idea of information audit; Difference with the traditional concepts of audit; Conduct and applications of IS audit in internet environment.</p>	<p>Distributed computing; Client-server computing; Internet protocol suite; Application of distributed computing; Client-server computing; Internet protocol suite in the internet environment; Domain Name System (DNS); Domain Name Service (DNS); Generic top-level domain (gTLD); Country code top-level domain (ccTLD); - India; Location of second-level domains; IP addresses; Internet protocol; Applications of Internet in business, education, governance, etc. Information System Audit Basic idea of information audit; Difference with the traditional concepts of audit; Conduct and applications of IS audit in internet environment.</p>	
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Suggested Reading :

1. Agrawala Kamlesh N. and Agarwala Deeksha : Business on the Net - Introduction to Ecommerce, Macmillan India, New Delhi.
2. Agarwala Kamlesh, N. and Agarwala Deeksha : Bulls, Bears and The mouse; and introduction to On-line Service Market Trading; Macmillan India, New Delhi.
3. Agarwala Kamlesh, N. and Agarwala Prateek Amar; WAP the Net; An Introduction on Wireless Application Protocol; Macmillan India, New Delhi.
4. Bajaj Kamlesh K. and Nag Debjani : E-Commerce; The cutting Edge of Business; Tata McGraw Hill, New Delhi.
5. Edwards, Ward and Bytheway : The Essence of Information Systems; Prentice Hall, New Delhi.
6. Garg & Srinivasan : Work Book on Systems Analysis & Design; Prentice Hall New Delhi.
7. Kanter : Managing with Information; Prentice Hall New Delhi.
8. Minoli Daniel, Minoli Emma : Web Commerce Technology Handbook; Tata McGraw Hill,

New Delhi.

9. Minoli Daniel : Internet & Internet Engineering; Tata McGraw Hill, New Delhi.

10. Yeats : Systems Analysis & Design; Macmillan India, New Delhi.

11. Goyal : Management information System; Macmillan India, New Delhi.

12. Timothy J O'Leary : Microsoft Office 2000; Tata McGraw Hill, New Delhi.

B.COM PART III

OPTIONAL GROUP C (E-Commerce Area)
 TITLE OF PAPER - ESSENTIAL OF E-COMMERCE
 OBJECTIVE

PAPER – II

The objective of this course is to familiarize the students with the basics of e-commerce and to comprehend its potential.
 M.M. 75

Present syllabus	Proposed syllabus	Remark
UNIT-I Internet and Commerce : Business operations; E-Commerce practices; Concepts b2b,b2c, b2g, g2h; Benefits of e-commerce to organization, consumers, and society; Limitation of e-commerce; Management issues relating to e-commerce. Operations of E-Commerce : Credit card transaction; Secure Hypertext Transfer Protocol (SHTP); Electronic payment systems; Secure electronic transaction (SET); Set's encryption; Process; Cybercash; Smart cards; Indian payment models.	UNIT-I Internet and Commerce : Business operations; E-Commerce practices; Concepts b2b,b2c, b2g, g2h; Benefits of e-commerce to organization, consumers, and society; Limitation of e-commerce; Management issues relating to e-commerce. Operations of E-Commerce : Credit card transaction; Secure Hypertext Transfer Protocol (SHTP); Electronic payment systems; Secure electronic transaction (SET); Set's encryption; Process; Cybercash; Smart cards; Indian payment models.	No change
UNIT-II Applications in B2C : Consumer's shopping procedure on the internet; Impact on disintermediation and re-inermediation; Global market; Strategy of traditional department stores; Products in b2c model; Success factors of e-brokers; Broker based services on-line; Online travel tourism services; Benefits and impact of e-commerce on travel industry; Real estate market; Online stock trading and its benefits; Online	UNIT-II Applications in B2C : Consumer's shopping procedure on the internet; Impact on disintermediation and re-inermediation; Global market; Strategy of traditional department stores; Products in b2c model; Success factors of e-brokers; Broker based services on-line; Online travel tourism services; Benefits and impact of e-commerce on travel industry; Real estate market; Online stock trading and its benefits; Online	No change

banking and its benefits; Online financial services and their future; Educations benefits, implementation, and impact.	banking and its benefits; Online financial services and their future; Educations benefits, implementation, and impact.	
UNIT-III Applications in B2B; Applications of b2b, Key technologies for b2b; Architectural models of b2b; Characteristics of the supplier-oriented marketplace, buyer-oriented marketplace, and intermediary-oriented marketplace; Benefits of b2b on procurement re-engineering; Just in Time delivery in b2b; Internet-based EDI from traditional EDI; Integrating EC with back-end information systems; Marketing issues in b2b.	UNIT-III Applications in B2B; Applications of b2b, Key technologies for b2b; Architectural models of b2b; Characteristics of the supplier-oriented marketplace, buyer-oriented marketplace, and intermediary-oriented marketplace; Benefits of b2b on procurement re-engineering; Just in Time delivery in b2b; Internet-based EDI from traditional EDI; Integrating EC with back-end information systems; Marketing issues in b2b.	No change
UNIT-IV Applications in Governance : EDI in governance; E-government; E-governance applications of the internet; Concept of government to business, business to government and citizen-to-government; E-governance models; Private sector interface in e-governance.	UNIT-IV Applications in Governance : EDI in governance; E-government; E-governance applications of the internet; Concept of government to business, business to government and citizen-to-government; E-governance models; Private sector interface in e-governance.	No change
UNIT-V Emerging Business Models : Retail model; Media model; Advisory model, Mode-to-order manufacturing model; Do-it yourself model; Information service model; Emerging hybrid models; Emerging models in India.	UNIT-V Emerging Business Models : Retail model; Media model; Advisory model, Mode-to-order manufacturing model; Do-it yourself model; Information service model; Emerging hybrid models; Emerging models in India. Security and Legal aspects of E-commerce.	Added Security and Legal aspects of E-commerce.

Suggested Reading :

1. Agarwala Kamlesh. N. and Agarwala Deekhsa : Bridge to Online Storefront; Macmillan India, New Delhi.

2. Agarwala Kamlesh. N. and Agarwala Deeksha : Business on the Net Introduction to the E-commerce; Macmillan India New Delhi.
3. Agarwala Kamlesh N. and Agarwala Deeksha : Bulls, Bears and The Mouse : An Introduction to Online Stock Market Trading; Macmillan India New Delhi.
4. Tiwari Dr. Murli D. : Eductaion and E-Governance; Macmillan India, New Delhi.
5. Minoli Daniel, Minoli Emma : Web Commerce Technology Handbook; Tata McGraw Hill, New Delhi.
6. Minoli Deniel, Internet & Internet Engineering : Tata McGraw Hill, 1999.
7. Bhatnagar Subhash and Schware Robert (Eds) : Information and Communication Technology in Development; Sage Publications India, New Delhi.
8. Amor, Daniel : E-business R evealuation, The : Living and Working in an Interconnected World; Prentice Hall, U.S.
9. Afuah, A., and Tuccu, C.: Internet usiness models and Strategies; McGraw Hill, New York.

B.COM PART III

OPTIONAL GROUP D (Money Banking & Insurance Area)

TITLE OF PAPER FUNDAMENTAL OF INSURANCE

PAPER – I

OBJECTIVE

This course enables the students to know the fundamentals of insurance.

M.M. 75

Present syllabus	Proposed syllabus	Remark
UNIT-I Introduction to Insurance : Purpose and need of insurance; Insurance as a social security tool; Insurance and economic development.	UNIT-I Introduction to Insurance : Purpose and need of insurance; Insurance as a social security tool; Insurance and economic development.	No change
UNIT-II Fundamentals of Agency Law : Definiton of an agent; Agents regulations; Insurance intermediaries; Agents Compensation.	UNIT-II Fundamentals of Agency Law : Definiton of an agent; Agents regulations; Insurance intermediaries; Agents compensation.	No change
UNIT-III Procedure for Becoming an Agent : Prerequisite for obtaining a license; Duration of license; Cancellation of incense; Revocation or suspension/termination of agent appointment; Code of conduct; Unfair practices. Functions of the Agent : Proposal form and other forms for grant of cover; Financial and medical underwriting; Material information; Nomination and assignment; Procedure regarding settlement of policy claims.	UNIT-III Procedure for Becoming an Agent : Prerequisite for obtaining a license; Duration of license; Cancellation of incense; Revocation or suspension/termination of agent appointment; Code of conduct; Unfair practices. Functions of the Agent : Proposal form and other forms for grant of cover; Financial and medical underwriting ; Material information; Nomination and assignment; Procedure regarding settlement of policy claims.	No change
UNIT-IV Company Profile : organizational set-up of the company; Promotion strategy; Market share; Important activities; Structure; Product; Actuarial profession; Product pricing actuarial aspects; Distribution channels.	UNIT-IV Company Profile : organizational set-up of the company; Promotion strategy; Market share; Important activities; Structure; Product; Actuarial profession; Product pricing actuarial aspects; Distribution channels.	No change
UNIT-V Fundamentals/Principles of Life insurance/ Marine /Fire /Medical/General Insurance; Contracts of various kinds; Insurable Interest.	UNIT-V Fundamentals/Principles of Life insurance/ Marine /Fire /Medical/General Insurance; Contracts of various kinds; Insurable Interest. Online insurance procedure	Added Online insurance procedure

Suggested Reading :

1. Mishra M.N. : Insurance Principle and Practice; S. Chand and Co., New Delhi.
2. Insurance Regulatory Development Act. 1999.
3. Life Insurance Corporation Act. 1956.
4. Gupta OS : Life Insurance; Frank brothers, New Delhi.
5. Vinayakam N., Radhaswamy and Vasudevan SV : Insurance - Principles and Practice, Chand and Co. New Delhi.
6. Mishra MN : Life Insurance Corporation of India, Vols I, II & III; Raj Books, Jaipur.
7. Balchand Shriwastava, Agra.
8. Dr. M.L. Singhai, RAmesh Book Depot, Jaipur.

B.COM PART III

OPTIONAL GROUP D

TITLE OF PAPER - MONEY & BANKING SYSTEM

OBJECTIVE

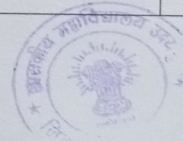
This course enables the students to know the working of the Indian Money & banking system.

(Money Banking & Insurance Area)

PAPER – II

M.M. 75

Present syllabus	Proposed syllabus	Remark
UNIT-I Money : Function, Alternative Measures to money supply in India - their different components. Meaning and changing relative importance of each.	UNIT-I Money : Function, Alternative Measures to money supply in India - their different components. Meaning and changing relative importance of each.	No change
UNIT-II Indian Banking System : Structure and organization of banks; Reserve Bank of India; Apex banking Institutions; Commercial banks; Regional rural banks; Cooperative banks; Development banks.	UNIT-II Indian Banking System : Structure and organization of banks; Reserve Bank of India; Apex banking Institutions; Commercial banks; Regional rural banks; Cooperative banks; Development banks.	No change
UNIT-III Banking Regulation Act, 1947 : History; Social control; Banking Regulation Act as applicable to banking companies and public sector banks; Banking Regulation Act as applicable to Cooperative banks.	UNIT-III Banking Regulation Act, 1947 : History; Social control; Banking Regulation Act as applicable to banking companies and public sector banks; Banking Regulation Act as applicable to Cooperative banks.	No change
UNIT-IV Regional Rural and Cooperative Banks in India : Functions; Role of regional rural and cooperative banks in rural India; Progress and performance.	UNIT-IV Regional Rural and Cooperative Banks in India : Functions; Role of regional rural and cooperative banks in rural India; Progress and performance.	No change
UNIT-V Reserve Bank of India : Objectives; Organization ; Functions and working; Monetary policy; Credit control measures and their effectiveness.State Bank of India, Project History, Objectives, Functions & Organization working & progress.	UNIT-V Reserve Bank of India : Objectives; Organization ; Functions and working; Monetary policy; Credit control measures and their effectiveness. State Bank of India, Project History, Objectives, Functions & Organization working & progress. Internet banking system	Added Internet banking system



Suggested Reading :

1. Basu A.K. : Fundamentals of Banking-Theory and Practice; A Mukherjee and Co., Calcutta.
2. Sayers R.S. : Modern Banking : Oxford University Press.
3. Panandikar S.G. And Mithani D.M. : Banking in India; orient Longman.
4. Reserve Bank of India : Functions and Working.
5. Dekock : Central Banking; Crosby lockwood Staples, London.
6. Tannan M.L. : Banking - Law and Practice in India : India Law House, New Delhi.
7. Knubchandani B.S. : Practice and Law of Banking; Macmillan, New Delhi.
8. Shekhar and Shekhar : Banking Theory and Practice; Vikas Publishing House, New Delhi.
9. Harishchandra Sharma.
10. M.L. Singhai.

