

**FACULTY OF ARTS**  
**M.A. (ENGLISH) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**ENGLISH LANGUAGE TEACHING: CLASSROOM TECHNIQUES AND**  
**PRACTICAL ENGLISH**  
**PAPER - I**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION - A (5 X 4 = 20 Marks)**

**1. Answer ALL the following questions**

- a) Techniques of teaching drama
- b) What is a lecture method?
- c) Use of OHP and PPT as teaching aids.
- d) How to design language tasks from literary texts?
- e) What is Group Discussion (GD) and write the role of participants in GD?

**SECTION – B (5 X 12 = 60 Marks)**

**Answer ALL the following questions**

2. (a) Discuss different techniques of teaching grammar and vocabulary

**(OR)**

(b) Explain techniques of teaching prose and poetry with examples.

3. (a) What is Learner Centred Approach and write about the role of students in this approach?

**(OR)**

(b) What are the difficulties of teaching in large classes? Discuss.

4. (a) What are the teaching aids and how do teachers use them?

**(OR)**

(b) Explain the importance of English Language Laboratory to teach English pronunciation.

5. (a) Write the important techniques in teaching language through literature?

**(OR)**

(b) Discuss Stylistic Approach to the Teaching of Literature

6. (a) Write a letter for a Manager Post in ABC Company. You should mention your Qualifications, your strengths and weaknesses, and your achievements and also write why do you think you fit for the job.

**(OR)**

(b) How to prepare agenda and minutes of meeting?

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**Faculty of Arts**  
**M. A. (Urdu) III Semester Examination (CBCS) JAN/FEB 2024**

**پہلا پرچہ I**

**مباریات تحقیق**

**(Time: 3Hors)**

**Answer All the questions**

**Max Marks: 80**

**Section – A**

**نوث: تمام سوالات حل کیے جائیں۔ ہر سوال کے چار نشانات مختص ہیں۔ ہر جواب پندرہ سطروں میں تحریر کیا جائے۔**

1. ادب میں تحقیق کی اہمیت و افادیت بیان کیجیے۔
2. تحقیق میں مواد کی اہمیت واضح کیجیے۔
3. تحقیق میں کتابیات سے کیا مراد ہے؟ کتابیات کی ترتیب کس طرح کی جاتی ہے؟ واضح کیجیے۔
4. متن کی تعریف کیجیے اور مثالیں دیجیے۔
5. ڈاکٹر زور کے مرتبہ متن کا مختصر تعارف کرائیے۔

**Section – B**

**نوث: تمام سوالات حل کیے جائیں۔ ہر سوال کے بارہ نشانات مختص ہیں۔ ہر سوال کا جواب چار صفحات سے زیادہ نہ ہو۔**

- (A).6 تحقیق کی مختلف اقسام کی وضاحت کیجیے۔ یا  
 (B) تحقیق اور تنقید کے رشتہ پر تفصیلی اظہار خیال کیجیے۔
- (A).7 موضوع تحقیق سے متعلق مواد کن کن وسائل سے حاصل ہو سکتا ہے؟ مفصل لکھیے۔ یا  
 (B) تحقیق میں موضوع کے انتخاب کی دشواریوں کی وضاحت کیجیے۔
- (A).8 نوٹ لینے اور حوالہ دینے کے طریقوں کے بارے میں اپنے خیالات کا اظہار کیجیے۔ یا  
 (B) مواد کی پرکھ اور حزم و احتیاط سے کیا مراد ہے؟ تفصیل سے لکھیے۔
- (A).9 آپ اپنے تحقیقی مقالے یادوںہ متن کے مقدمے میں کن کن مسائل کا ذکر کریں گے؟ مفصل لکھیے۔ یا  
 (B) قلمی نہجوں کی فراہمی کی دشواریوں اور متن کے استناد کے درجے کا تعین کرنے کے لیے کن اصولوں سے کام لیا جاتا ہے؟ واضح کیجیے۔
- (A).10 مولوی عبدالحق کی تحقیقی خدمات پر روشنی دالیے۔ یا  
 (B) ڈاکٹر جبیل جالبی کے اہم تحقیقی کارناموں کا تعارف پیش کیجیے۔

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**FACULTY OF ARTS**  
**M.A (TELUGU) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**

**ఆధునిక తెలుగు సాహిత్యచరిత్ర అధ్యయనం - I**

**పేపర్ - I**

**సమయం: 3 గంటలు]**

**[గరిష్ట మార్కులు : 80**

**సెక్షన్ - ఎ (5 X 4 = 20 మార్కులు)**

1 ఈ క్రింది వానిపై లఘు వ్యాఖ్య వ్రాయండి

- ఎ భారతీయ పునరుజ్జీవనోద్యమం
- బి కొప్పరపు కవులు
- సి తెలుగులో గ్రంథ పరిషురణ
- డి జయంతి రామయ్య
- ఇ గేయం

**సెక్షన్ - బి (5 X 12 = 60 మార్కులు)**

**అన్ని ప్రశ్నలకు సమాధానాలు వ్రాయండి**

2 ఎ ఆధునిక తెలుగు సాహిత్యంలో వివిధ ఉద్యమాల ప్రభావాన్ని చర్చించండి

**లేదా**

- బి ఆధునిక యుగంలో విజ్ఞాన శాస్త్ర గ్రంథాల నిర్మాణాన్ని చర్చించండి

3 ఎ ఆధునిక తెలుగు సాహిత్య ఆరంభంలో జంటకవుల కవిత్వాన్ని దృష్టిని వివరించండి

**లేదా**

- బి ఆధునిక తెలుగు సాహిత్య ఆరంభంలో శ్రీపాద సుబ్రహ్మణ్య శాస్త్రి ప్రశ్నేకతలను వివరించండి

4 ఎ అనువాద సాహిత్యంలో వచనసాహిత్య ఆరంభ వికాసాలను చర్చించండి

**లేదా**

- బి తెలుగులో పత్రికా రచన ఆరంభ వికాసాలను చర్చించండి

5 ఎ ఆధునిక యుగంలో వ్యాపకోద్యమ రీతులను వివరించండి

**లేదా**

- బి భాషోద్యమంలో గిడుగు రామమార్తి, జయంతి రామయ్య పాత్రలను వివరించండి

6 ఎ ఆధునిక తెలుగు కథానిక ఆరంభ వికాసాలను చర్చించండి

**లేదా**

- బి ఆధునిక వికాసంలో తెలంగాణ సంస్కృతాల పాత్రాలను చర్చించండి

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**FACULTY OF SOCIAL SCIENCES**  
**M. A (SOCIOLOGY) III SEM (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**  
**CONTEMPORARY SOCIOLOGICAL THEORIES**  
**PAPER - I (NEW)**

**TIME: 3 HRS]****[MAX. MARKS: 80]****SECTION - A (5 X 4 = 20 Marks)****1 Answer ALL the questions**

- a Idea of Progress
- b Cultural Imperialism of McDonaldization
- c Tenants of Objective Knowledge
- d Dialectics of Enlightenment
- e Rejection of Metanarratives

**SECTION – B (5 X 12 = 60 Marks)****Answer ALL questions**

2 A Sketch the state and conditions of pre-modernity by providing suitable illustrations to paint a vivid picture of the era.

**OR**

B Describe how the ideas and philosophies of prominent thinkers and philosophers paved the way for the advent of the Age of Enlightenment.

3 A Write a comprehensive note on the classical theories of modernity.

**OR**

B Analyse the key tenets and philosophical underpinnings that shaped the modern era.

4 A Compare and contrast the philosophical views of Thomas Kuhn on the nature of scientific progress and change with Karl Popper.

**OR**

B Give a brief account on the post-structuralism with relevant contexts.

5 A Discuss the theory of life world and public sphere as discussed by Jurgen Habermas.

**OR**

B How does Benedict Anderson's concept of 'imagined communities' reshape our understanding of nationalism and identity formation?" Explain

6 A Trace the trajectory of postmodernity by highlighting its unique features and characteristics.

**OR**

B Presents a critical examination of the philosophical foundations and implications of postmodernism from Marxist perspective.

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**FACULTY OF SOCIAL SCIENCES**  
**M.A. (SOCIOLOGY) III SEMESTER (CBCS OLD) EXAMINATIONS JAN/FEB 2024**  
**CONTEMPORARY SOCIOLOGICAL THEORIES**  
**PAPER – I (OLD)**

**Time: 3 Hours**

**[Max. Marks: 80**

**SECTION – A (5 X 4 = 20 Marks)**

**1. Write Short notes on the following**

- a) What is pre-modernity?
- b) Views of Durkheim on Modernity.
- c) Explain Post Structuralism
- d) What is Communicative Action?
- e) Capitalism

**SECTION – B (5 X 12 = 60 Marks)**

**Answer ALL questions**

2 A) Highlight the contribution of Rousseau in the Age of Enlightenment.

**OR**

B) Explain Immanuel Kant theory of Ethics.

3 A) Explain the origin and characteristics of Bureaucracy according to Max Weber?

**OR**

B) Discuss Habermas, Structural Transformation of the Public Sphere.

4 A) Explain the New Philosophy of Science of Karl Popper.

**OR**

B) Explain Michel Foucault's concept of Power.

5 A) Discuss Eric Olin Wright's theory on Sociology of Culture.

**OR**

B) Explain Aloysius concepts on Nations and Nationalism.

6 A) Explain Frederic Jameson's Cultural logic of the late Capitalism.

**OR**

B) Explain the idea and condition of Post-Modernity.

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**FACULTY OF SOCIAL SCIENCES**  
**M. A (ECONOMICS) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**DEVELOPMENT ECONOMICS**  
**PAPER - I**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (5 X 4 = 20 Marks)**

**1 Answer ALL the questions**

- a Define Development
- b Write a note on Innovations
- c Briefly explain the critical minimum effort.
- d Write a short note on choice of techniques.
- e Write down the Planned economy model of Cuba.

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL questions**

**2 A Define Growth. What are the factors affecting economics growth?**

**OR**

B What is the concept of Human Development? Explain the essential components of Human Development.

**3 A How does Rostow's theory connect to development?-Explain**

**OR**

B What does the Harrod-Domar model suggest that growth is?-Analyze

**4 A Examine the Big Push Theory of Economic Development.**

.

**OR**

B Analyze the Lewis Model of Unlimited supply of Labour.

**5 A Discuss the role of technology in Economic Development.**

**OR**

B Examine the role of capital formation in developing countries.

**6 A Explain the basic features of development in USA.**

**OR**

B Write about the pattern of development in Market Economy.

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FACULTY OF SCIENCE  
MSC (BOTANY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024  
CELL BIOLOGY, GENETICS AND BIOSTATISTICS  
PAPER - I

TIME: 3 HRS]

[MAX. MARKS: 80]

**SECTION - A (4 X 5 = 20 Marks)**

1 **Write a short note on the following**

- A Introns and Extrons
- B Site – Directed Mutagenesis
- C Cytoplasmic male sterility
- D Chi -Square Test

**SECTION – B (4 X 15 = 60 Marks)**  
**Answer ALL Questions**

2 A Explain DNA replication and transcription with suitable diagrams

**OR**

- B Discuss on the regulation of gene expression in prokaryotes

3 A Write on the Linkage and Crossing Over in Eukaryotes

**OR**

- B Explain Inherited Human Diseases with suitable examples. Add a note on gene therapy

4 A Describe the different techniques used in recombinant DNA technology

**OR**

- B Explain the different plant breeding methods with suitable examples

5 A Discuss on the basic concepts of gene sequencing

**OR**

- B Explain Mean, Variance and Standard Error with suitable examples

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**FACULTY OF SCIENCE**  
**M. Sc (COMP SCI) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**PROGRAMMING IN C#**  
**PAPER - I**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a What is Inheritance?
- b What is Windows Programming?
- c What are Stored Procedures?
- d Explain briefly about MVC.

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Discuss in detail the Architecture and Components of .NET Framework 4.5. Also explain about JIT Compiler.**

**OR**

**B What is Object Oriented Programming? Explain in detail about Abstraction and Polymorphism.**

**3 A Compare and contrast Window Programming Vs Window Presentation Foundation.**

**OR**

**B Explain in detail how to create a Window Form using window controls, menus and dialog boxes.**

**4 A What is SQL? Discuss in detail about OLEDB Database.**

**OR**

**B Explain the Architecture of ADO.NET with a neat diagram. List out ADO.NET commands.**

**5 A Describe the Structure of ASP.NET MVC Project.**

**OR**

**B Explain in detail about Web Deploying IIS.**

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**FACULTY OF SCIENCE**  
**MSc (FOOD SCI & TECH) III SEM (CBCS) EXAMINATIONS JAN/FEB 2024**  
**FOOD SAFETY, QUALITY CONTROL & MANAGEMENT SYSTEMS**  
**PAPER - I**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a What is food adulteration explain.
- b Explain the term good hygienic practices.
- c Give a brief account on CAC.
- d How would you do selection of sensory panellists.

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Discuss in detail factors affecting food safety.**

**OR**

- B Give a brief account on (i) risk management and (ii) risk communication

**3 A Discuss the principles and applications of HACCP plan.**

**OR**

- B Describe total quality management.

**4 A Briefly describe ISO 22000-2005 Food SMS**

**OR**

- B Discuss in detail the auditing process.

**5 A Describe the flavour profile tests.**

**OR**

- B Discuss in detail the requirements of sensory evaluation laboratory.

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**FACULTY OF SCIENCE**  
**M. Sc (ZOOLOGY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**MOLECULAR BIOLOGY**  
**PAPER - I**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Transposons
- b Inhibitors of Transcription
- c Proteomics
- d Western blotting

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A What are enzymes? Explain one gene one enzyme hypothesis in detail.**

**OR**

**B Write an essay on human genome.**

**3 A Discuss the types of RNA and post transcriptional modifications of RNA.**

**OR**

**B Explain the concept of Operon and tryptophan models in detail.**

**4 A Write about Polypeptide synthesis and effect of antibiotics on protein synthesis.**

**OR**

**B What is genetic code? Add a note on Wobble hypothesis**

**5 A Illustrate the Protein isolation and purification methods.**

**OR**

**B Write about DNA polymerases and Finger printing technology.**

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**FACULTY OF SCIENCE**  
**MSC (MICROBIOLOGY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**FOOD MICROBIAL TECHNOLOGY**  
**PAPER - I**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

1 **Write a short note on the following**

- A Silage
- B Microbial products of milk
- C Mycotoxins
- D Quantitative Microbial Analysis

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL Questions**

2 A Explain the processing and fermentation of Pickles and Sauerkraut

**OR**

- B Describe the production and cultivation of different types of mushrooms

3 A Discuss on the types of microorganisms and significance of microorganisms in milk

**OR**

- B Write a note on screening of probiotics. Add a note on genetically modified probiotics

4 A Explain the spoilage and factors effecting spoilage of milk

**OR**

- B Discuss on food preservation methods and food safety issues

5 A Explain the different methods employed in quality assessment of foods

**OR**

- B Describe the various methods used to detect pathogens in food. Add a note on canned foods

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**613/FEB24/III-A**

**FACULTY OF SCIENCE  
MSc (NUTRITION & DIETETICS) III SEM (CBCS) EXAMS JAN/FEB 2024  
COMMUNITY NUTRITION  
PAPER - I**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Explain Gomez classification and limitations of skin fold thickness.
- b Explain visual aids with examples.
- c Write a note on UNICEF.
- d Explain occupational hazards.

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 A Describe the anthropometric measurements, their uses and limitations.

**OR**

B Describe the clinical assessment methods along with their uses and limitations.

3 A Describe the different types of health education approaches along with their advantages and disadvantages.

**OR**

B Describe the health administration at centre and village level.

4 A Write short notes on (i) Fluorosis (ii) Anaemia

**OR**

B Discuss the role of International organization in combating malnutrition.

5 A Describe in detail the mass and supplementary feeding programme.

**OR**

B Describe how you would protect the health and nutritional status of workers.

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**FACULTY OF SCIENCE**  
**M. Sc (CHEMISTRY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**SPECTRAL TECHNIQUES**  
**(COMMON FOR ALL SPECIALS)**  
**PAPER - I**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- A Write a note on classification of 2D NMR experiments.
- B Write a note on quadrupole moments.
- C What is axial halo ketone rule?
- D Write a note on Miller indices.

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Explain Homo COSY ( $^1\text{H}$ - $^1\text{H}$  COSY) spectra with an example.**

**OR**

- B Elucidate the structure of your choice of molecule by using UV, IR,  $^1\text{H}$ NMR,  $^{13}\text{C}$ NMR and Mass spectra.

**3 A Write a note on quadrupole splitting and magnetic hyperfine splitting.**

**OR**

- B Discuss the Mossbauer spectroscopy of low-spin and high-spin Fe(II) and Fe(III) complexes

**4 A Write a note on plain and anomalous curves. Discuss their applications in the study of conformational changes**

**OR**

- B Write the principle, instrumentation and applications of AUGER electron spectroscopy

**5 A Write the basic theory, instrumentation and applications of extended X-ray absorption fine structure (EXAFS) spectra**

**OR**

- B Describe the procedure for an X-ray structure analysis of a given sample, and discuss the advantages and limitations of X-ray diffraction

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## FACULTY OF SCIENCE

## M. Sc. (ENGG.PHYSICS &amp; INSTR./PHYSICS) III SEM (CBCS) EXAMS JAN/FEB 2024

QUANTUM MECHANICS – II  
(COMMON FOR SPECIALIZATIONS)

## PAPER - I

Time: 3 Hours

[Max. Marks: 80]

## SECTION – A (4 X 5 = 20 Marks)

## 1 Answer the following

- State and prove Rayleigh-Ritz variation method.
- Write down the transition rate equations for Absorption, Spontaneous emission and stimulated emission.
- Obtain scattering amplitude by Green function method.
- In the Dirac Hamiltonian,  $H = c\alpha \cdot P + \beta mc^2$ , show that  $\alpha$  and  $\beta$  are matrices.

## SECTION – B (4 X 15 = 60 Marks)

## Answer ALL Questions

- Correct the energy Eigen values and Eigen functions to first order in degenerate perturbation theory.
- Apply degenerate perturbation theory to normal Zeeman Effect.

OR

- Outline WKB approximation method and discuss its validity.
- Obtain transition rate equations for i) constant perturbation and ii) What is Fermi-Golden rule?  
OR  
Show that the interaction of electromagnetic radiation with an atom is equivalent to that of harmonic perturbation and then discuss the phenomena of absorption and stimulated emission.
- Define differential scattering cross-section and calculate it for screened potential.  
OR  
Calculate the differential scattering cross-section for square well potential.  
Obtain the partial wave analysis of plane waves.
- a) What are the plane wave solutions of Dirac equation and discuss the two energy branch interpretation in this context.  
OR  
b) Spin of the Dirac particle.  
c) Obtain the value of spin magnetic moment for Dirac particle in magnetic field.

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**FACULTY OF SCIENCE**  
**M.SC. (STATISTICS) III SEMESTER (CBCS) EXAMINATION JAN/FEB 2024**  
**NONPARAMETRIC INFERENCE**  
**PAPER – I**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A (4 X 5 = 20 Marks)**

**1. Answer ALL the questions.**

- a) Define Rosenblatt's naive density estimator. Also state its bias and variance.
- b) Explain why and when sign test for two related samples is preferred.
- c) Describe the major assumptions in Kruskal–Wallis test procedure for one-way layout.
- d) What is Pitman efficiency? Explain

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL Questions**

2. a) Explain Kolmogorov-Smirnov one sample test for goodness of fit.

**OR**

b) Explain the Wilcoxon signed rank test for one sample.

3. a) Obtain the distribution of R in Wald - Wolfowitz Runs test for two samples.

**OR**

b) Obtain the Mann-Whitney U-test statistic

4. a) Explain the test procedure of independence and homogeneity in contingency table.

**OR**

b) Derive the Friedman test statistic.

5. a) Obtain the Asymptotic relative efficiency of one sample and paired sample location tests.

**OR**

b) Explain the Hodges-Lehman's deficiency with a suitable example.

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**FACULTY OF SCIENCE****M.Sc. (MATHEMATICS) III SEM (CBCS R-22NEW) EXAMS JAN/FEB 2024**  
**COMPLEX ANALYSIS**  
**PAPER - I****TIME: 3 HRS]****[MAX.MARKS:80****SECTION-A (4 X 5 =20 Marks)****1 Answer ALL the questions.**

a Determine the accumulation points of each of the following sets:  
(i)  $z_n = i^n$ , ( $n = 1, 2, \dots$ ); (ii)  $z_n = i^n/n$ , ( $n = 1, 2, \dots$ );  
b Determine the derivative of the following functions by using the definition of differentiation:  
(i)  $f(z) = (1 - 4z^2)^3$  (ii)  $f(z) = \frac{(1+z^2)^4}{z^2}$  ( $z \neq 0$ )  
c State why the function  $f(z) = 2z^2 - 3 - ze^z + e^{-z}$  is entire.  
d Without evaluating the integral, show that  $\left| \int_C \frac{dz}{z^2 - 1} \right| \leq \frac{\pi}{3}$  where  $C$  be the arc of the circle  $|z| = 2$  from  $z = 2$  to  $z = 2i$ .

**SECTION-B (4 X 15 = 60 Marks)****Answer ALL the questions.**

2 A Use mathematical induction to show that  $\lim_{z \rightarrow z_0} z^n = z_0^n$  where  $n$  is a positive integer ( $n = 1, 2, \dots$ )

**OR**

B Use definition of limit to prove that: if  $\lim_{z \rightarrow z_0} f(z) = w_0$ , then  $\lim_{z \rightarrow z_0} |f(z)| = |w_0|$

3 A Show that when  $f(z) = x^3 + i(1 - y)^3$ , it is legitimate to write  $f'(z) = u_x + iv_x = 3x^2$  only when  $z = i$ .

**OR**

B In each case, determine the singular points of the function and state why the function is analytic everywhere except at those points:

(i)  $f(z) = \frac{2z+1}{z(z^2+1)}$   
(ii)  $f(z) = \frac{z^3+i}{z^2-3z+2}$   
(iii)  $f(z) = \frac{z^2+1}{(z+2)(z^2+2z+2)}$

4 A Write  $Re(e^{1/z})$  in terms of  $x$  and  $y$ . Why is this function harmonic in every domain that does not contain the origin?

**OR**

B Show that

(i)  $\overline{\cos(iz)} = \cos(i\bar{z})$  for all  $z$ ;  
(ii)  $\overline{\sin(iz)} = \sin(i\bar{z})$  if and only if  $z = n\pi i$  ( $n = 0, \pm 1, \pm 2, \dots$ ).

5 A By finding an antiderivative, evaluate each of these integrals, where the path is any contour between the indicated limits of integration:

(i)  $\int_0^{\pi+2i} \cos\left(\frac{z}{2}\right) dz$  (ii)  $\int_1^3 (z-2)^3 dz$

**OR**

B Let the function  $f(z) = u(x, y) + iv(x, y)$  be continuous on a closed bounded region  $R$ , and suppose that it is analytic and not constant in the interior of  $R$ . Show that the component function  $v(x, y)$  has maximum and minimum values in  $R$  which are reached on the boundary of  $R$  and never in the interior, where it is harmonic.

**\*\*\*\*\***

**FACULTY OF COMMERCE**  
**M.COM (GEN, CA & FA) III SEMESTER (CBCS R-22) EXAMINATIONS JAN/FEB 2024**  
**QUANTITATIVE TECHNIQUES**  
**PAPER - I**

**TIME: 3 HRS]****[MAX. MARKS: 80****SECTION - A (5 X 4 = 20 Marks)****1 Answer ALL Questions**

A What is Statistical Decision Theory?  
 B One card is drawn from a standard pack of 52. What is the probability that it is either a King or a Queen?  
 C What do you mean by hypothesis?  
 D What do you understand by ANOVA?  
 E What is the Mann Whitney U-test?

**SECTION – B (5 X 12 = 60 Marks) Answer ALL Questions**

2 A Describe in detail the ingredients of decision problem

**OR**

B From the following information find the maxmin and minmax and Zero - Sum Game. 
$$\begin{bmatrix} 2 & 0 & 1 \\ 4 & -3 & 2 \\ 1 & -2 & 2 \end{bmatrix}$$

3 A Eight coins are tossed at a time 256 times. Number of heads observed at each throw is recorded and the results are given below. Find the expected frequencies. What are the theoretical values of mean and standard deviation? Calculate also the mean and S.D. of the observed frequencies.

No. of heads at a throw	0	1	2	3	4	5	6	7	8
Frequency	2	6	30	52	67	56	32	10	1

**OR**

B What is Normal Distribution? Describe the main characteristics of a Normal Distribution.

4 A What do you mean by sampling? Explain the random and non-random sampling methods.

**OR**

B Describe the procedure of Testing Hypothesis in detail.

5 A What is ANOVA and where is it used? Give two suitable examples.

**OR**

B To assess the significance of possible variation in performance in a certain test between the convent schools of Karimnagar city, a common test was given to a number of students taken at random from the senior fifth class of each of the four schools concerned. The results are given below. Make an analysis of variance of data.

Schools				
A	B	C	D	
8	12	18	13	
10	11	12	9	
12	9	16	12	
8	14	6	16	
7	4	8	15	

6 A Explain the different types of non parametric tests.

**OR**

B From the adult male population of four large cities, random samples of sizes given below were taken and the number of married and single men recorded. Do the data indicate any significant variations among the cities in the tendency of men to marry? (Given for v=6,  $X^2_{0.05} = 12.6$ )

City	A	B	C	D	E	F	G	Total
Married	170	285	165	106	153	125	146	1,150
Unmarried	40	125	35	37	55	35	33	360
	210	410	200	143	208	160	179	1,510

**\*\*\*\*\***

**FACULTY OF COMMERCE****M.Com. (ALL STREAMS) III SEMESTER (CBCS-OLD) EXAMINATIONS JAN/FEB 2024****RESEARCH METHODOLOGY AND STATISTICAL ANALYSIS****PAPER - I****Time: 3 Hours]****[Max . Marks: 80****SECTION A- (Marks: 5 X 4 = 20)**

1. **Answer all the questions at one place only**
  - a) What is Survey Method in Research?
  - b) What is Questionnaire?
  - c) What are the essentials for interpretations?
  - d) What is Axiomatic Approach?
  - e) Define Attributes.

**SECTION B – ( Marks: 5 X 12 = 60)**

2. a) Explain the role and Importance of Quantitative Techniques.  
**(OR)**  
b) What is Research? Explain the Characteristics and Types of Research
3. a) What is Sampling? Explain the various methods of sampling.  
**(OR)**  
b) Critically examine Processing and Presentation of Data.
4. a) Explain Statistical fallacies and Discuss how to overcome them.  
**(OR)**  
b) Critically examine the stages involved in preparation of Report
5. a) What is probability and Explain the basic approaches to measurement of probability.  
**(OR)**  
b) Calculate when an unbiased coin is tossed eight times what is the probability of obtaining:
  - (a) Less than 4 heads?
  - (b) More than five heads?
6. a) What are the different methods of measuring association between attributes?  
**(OR)**  
b) Suppose we want to know if gender has anything to do with political party preference. So, we poll 440 voters in a simple random sample to find out which political party they prefer. The results of the survey are provided in the table below.

	Republican	Democrat	Independent	Total
Male	100	70	30	200
Female	140	60	20	220
Total	240	130	50	440

To see if gender is linked to political party preference, perform a Chi-Square test to verify the assumed theory.

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**FACULTY OF SOCIAL SCIENCES**  
**MSW III SEMESTER (CBCS NEW & OLD) EXAMINATIONS JAN/FEB 2024**  
**COMMUNITY ORGANIZATION & SOCIAL ACTION**  
**PAPER - I**

TIME: 3 HRS]

[MAX. MARKS: 80]

**SECTION - A (5 X 4 = 20 Marks)****1 Answer ALL the questions**

- a Philosophy of Community Organization
- b Resource Transaction Model
- c Social Aspects of PRA
- d Principles of Social Action
- e Relevance of Social Action for Social Development

**SECTION - B (5 X 12 = 60 Marks)****Answer ALL questions**

2 A Define Community Organization and explain its nature and scope in detail.

**OR**

B Delineate client perception on the nature and activity of community organization.

3 A Write a comprehensive note on skills, techniques, approaches and strategies of community organization.

**OR**

B Describe various development models of community organization with examples.

4 A Brief an account of techniques and usages of Participatory Rural Appraisal (PRA).

**OR**

B How do you, as a researcher, undertake the study, review, and analysis of various issues within a community? Discuss

5 A Present social action as a method of social work in the context of eliminating poverty in rural areas.

**OR**

B Discuss the role and intervention of social action in transforming a society.

6 A Discuss different strategies for the accomplishment of social action with suitable illustrations.

**OR**

B Share a success story from a developing nation that highlights the effective implementation of social action.

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**FACULTY OF ARTS**  
**M.A. (ENGLISH) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**AMERICAN LITERATURE - I**  
**PAPER - II**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (5 X 4 = 20 Marks)**

1 **Answer ALL the following questions**

- A Transcendentalism
- B The American Romantics
- C A note on Emily Dickinson
- D The ideas of Faulkner
- E How do you appreciate Thoreau's views?

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL the following questions**

2 A Write a detail note on Antebellum and Postbellum America.

**OR**

B Sketch William Cullen as a poet with reference to the poems prescribed for your study.

3 A Critically appreciate Dickinson's Because I could not stop for death.

**OR**

B Write the views of Poe's poetry based on the poems prescribed for your study.

4 A Discuss the key points of Twain's The Adventures of Huckleberry Finn.

**OR**

B Appreciate Nathaniel's The Scarlet Letter.

5 A How do you understand Eugene's Desire Under the Elms? Comment

**OR**

B Summarise Miller's All My Sons.

6 A Emerson's The American Scholar is apt for ages and ages. Comment

**OR**

B Thoreau's Civil Disobedience explains the possibility for individuals to take actions of resistance that protest aspects of governments, laws, or politics that they feel to be unjust. Discuss

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**Faculty of Arts**  
**M. A. (Urdu) III Semester Examination (CBCS)** JAN/FEB 2024

Paper-II دوسرے پرچھ

**Nazm Aur Jadeed Sheri Asnaf** نظم اور جدید شعری اصناف

**(Time: 3Hors)**

**Answer All the questions**

**Max Marks: 80**

**Section – A**

**نوث: تمام سوالات حل کیے جائیں۔ ہر سوال کے چار نشانات مختص ہیں۔ ہر جواب پندرہ سطروں میں تحریر کیا جائے۔** (5x4=20)

1. نظم کی تعریف بیان کچیے۔
2. اکبرالہ آبادی کی نظم نگاری پر مختصر نوٹ تحریر کچیے۔
3. مخدوم کی نظم نگاری کی امتیازی خصوصیات بیان کچیے۔
4. سانیٹ کی بیت پر روشی ڈالیے۔
5. مخدوم کی نظم "چاند تاروں کا بن" کے مرکزی خیال کی وضاحت کچیے۔

**Section – B**

**نوث: تمام سوالات حل کیے جائیں۔ ہر سوال کے بارہ نشانات مختص ہیں۔ ہر سوال کا جواب چار صفحات سے زیادہ نہ ہو۔** (5x12=60)

- (A) اردو شاعری میں صنف نظم کے ابتدائی نقوش کہاں ملتے ہیں؟ واضح کچیے۔ یا  
(B) نظم کی مختلف قسموں کا تعارف کرائیے۔
- (A) اردو نظم کے فروغ میں انجمن پنجاب کی خدمات کا جائزہ لیجیے۔ یا  
(B) اردو نظم کو قومی اور وطنی تصورات سے ہم کنار کرنے میں کن شعر انے اہم حصہ لیا؟ تفصیل سے لکھیے۔
- (A) حلقة ارباب ذوق سے تعلق رکھنے والے نظم گو شعر اکا تعارف کرائیے۔ یا  
(B) "ترقی پسند تحریک اور اردو نظم" کے عنوان پر ایک جامع مضمون لکھیے۔
- (A) اردو نظم میں، ہمیتی تجویں کی روایت پر روشی ڈالیے۔ یا  
(B) اردو نظم کی جدید اقسام کا تعمیدی جائزہ لیجیے۔
- (A) اقبال کی "نظم" "مسجد قرطہ" کا تعمیدی جائزہ لیجیے۔ یا  
(B) اردو نظم کی تاریخ میں "مناجات یوہ" کی اہمیت اجاگر کچیے۔

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**FACULTY OF ARTS**  
**M.A (TELUGU) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**

**ఆధునిక తెలుగు కవిత్వం - I**

**పేపర్ - II**

సమయం: 3 గంటలు]

[గరిష్ట మార్కులు : 80

**సెక్షన్ - ఎ (5 X 4 = 20 మార్కులు)**

1 ఈ క్రింది వానిపై లఘు వ్యాఖ్య వ్రాయండి  
 ఎ సవ్య కవిత నిర్వచనాలు  
 బి భావ కవిత్వం లక్షణాలు  
 సి ముత్యాల సరం లక్షణాలు  
 డి శ్రీ శ్రీ  
 ఇ జాపువా కవి పరిచయం

**సెక్షన్ - బి (5 X 12 = 60 మార్కులు)**

అన్ని ప్రశ్నలకు సమాధానాలు వ్రాయండి

2 ఎ సవ్యకవిత్వ ఆరంభంలో ఆంగ్ల సాహిత్య ప్రభావాన్ని చర్చించండి

**లేదా**

బి ఆధునిక యుగంలో పద్య కవిత్వ వికాసానికి దోహదమయిన అవధానాలను గూర్చి వ్రాయండి  
 3 ఎ భావ కవిత్వ లక్షణాలను వివరించండి

**లేదా**

బి అభ్యుదయ కవితా రీతులను వివరించండి  
 4 ఎ గురజాడ ముత్యాలను విశిష్టతను చర్చించండి

**లేదా**

బి తృణకంకణంలోని అమలిన శృంగార సిద్ధాంతాన్ని వివరించండి  
 5 ఎ భావ కవిత్వంలో కృష్ణాప్రీత్యేకతను వివరించండి

**లేదా**

బి మహేష్వరస్వానంలోని అభ్యుదయ కవత్వ దృష్టిని వివరించండి  
 6 ఎ జాపువా ఫిరదోసి కావ్య పరమార్థాన్ని చర్చించండి

**లేదా**

బి అగ్నిధారలో కనిపించే దాశరథి కవితా తత్వాన్ని చర్చించండి

★★★★★

**FACULTY OF SOCIAL SCIENCES**  
**M. A III SEMESTER (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**  
**INDIAN SOCIETY: STRUCTURE AND CHANGE**  
**PAPER - II**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (5 X 4 = 20 Marks)**

1 **Answer ALL the questions**

- a Indological Perspective
- b Indo Aryans
- c Purusharthas
- d Bhakti Movement
- e B.R Ambedkar

**SECTION – B (5 X 12 = 60 Marks)**

**Answer ALL questions**

2 A Write about any two approaches to understand Indian Society.

**OR**

B Elaborate M.N. Srinivas's Structural Functional Perspective.

3 A Explain VarnashramaDharmas in detail

**OR**

B Describe Agrarian Social Structure in Indian Society.

4 A Examine the role of Britisher's in Promoting Christianity in India.

**OR**

B Write an essay on Jajmanisystem .

5 A How have land reforms in India transformed Indian Society ?

**OR**

B What are the contributions of Karl Marx in Understanding Society

6 A In what way Indian Constitution support and benefit Scheduled Castes and Scheduled Tribes?

**OR**

B What is Democracy? how can it promote Egalitarian Society.

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**FACULTY OF SOCIAL SCIENCES**

**M.A. (SOCIOLOGY) III SEMESTER (CBCS OLD) EXAMINATIONS JAN/FEB 2024**

**SOCIOLOGY OF DEVELOPMENT (OLD)**

**PAPER – II**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A (5 X 4 = 20 Marks)**

**1. Write Short notes on the following**

- a) Explain the concept of change and progress
- b) Write a note on Gender and Development.
- c) What is Development Planning?
- d) What is Balanced Growth?
- e) Gandhi's views on Development

**SECTION – B (5 X 12 = 60 Marks)**

**Answer ALL questions**

2 A) Explain the factors influencing Human Development.

**OR**

B) Enumerate the social and ecological factors contributing to Sustainable Development.

3 A) Explain Samir Amin's theory of under-development..

**OR**

B) Explain the views of Karl Marx on Economic Development.

4 A) Explain the Socialist path of Development.

**OR**

B) Explain the Capitalist path of Development.

5 A) Does Social Structure influence Development process? Discuss.

**OR**

B) Discuss the socio-economic disparities in development process.

6 A) Enumerate the issues in Resettlement and Rehabilitation process.

**OR**

B) Discuss the Industrial policies in India.

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**FACULTY OF SOCIAL SCIENCES**  
**M.A (ECONOMICS) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**INTERNATIONAL ECONOMICS**  
**PAPER - II**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Write a note on Rybczynski theorem
- b Distinguish between tariff and Quota.
- c What is foreign trade multiplier?
- d SAFTA
- e UNCTAD

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Describe briefly immiserizing growth.**

**OR**

**B Explain the comparative advantage with suitable example**

**3 A Briefly explain the factors, which determine the terms of trade?**

**OR**

**B Discuss the Differentiate between tariff and non-tariff barriers to international trade**

**4 A Discuss in detail of surplus or deficit in balance of payments**

**OR**

**B Explain the main causes of BOP crisis in India which led to reforms in 1991**

**5 A Deliberate the formation of SAFTA. What is the Role of India in SAFTA?**

**OR**

**B Discuss briefly of ASEAN is a successful trading bloc.**

**6 A Explain the Trade Policies in India in detail**

**OR**

**B Impact of trade reforms since 1991 on balance of payments and growth.**

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**FACULTY OF SCIENCE  
MSC (BOTANY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024  
PLANT PHYSIOLOGY  
PAPER – II**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Write a short note on the following**

- A Water potential
- B Photosynthetic pigments
- C Nif genes
- D Vernalization

**SECTION - B (4 X 15 = 60 Marks)  
Answer ALL Questions**

**2 A Explain the different theories of ion absorption in plants**

**OR**

**B Write about the different types of transpiration. Add a note on the theories of stomatal transpiration.**

**3 A Discuss on the various steps involved in C<sub>4</sub>– Cycle**

**OR**

**B Explain Electron Transport Chain of respiration**

**4 A Describe the mechanism of nitrogen fixation in plants**

**OR**

**B Write on the physiological effects and mechanism of action of gibberellins and Abscisic acid**

**5 A Explain photoperiodism and its significance in plants**

**OR**

**B Write about plant mechanisms and tolerance to temperature and salt stresses**

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**FACULTY OF SCIENCE**  
**MSc (COMP SCI) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**DATA MINING**  
**PAPER - II**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a What is Data Mining?
- b Define OLAP.
- c Discuss briefly about Classification.
- d What is Outlier Detection?

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Explain what kinds of data can be mined and list out major issues in Data Mining.**

**OR**

**B Discuss in detail about Data Cleaning and Data Integration.**

**3 A What is Data Warehouse? Explain in detail about Data Warehouse Design and Usage.**

**OR**

**B Discuss in detail data cube computation preliminary concepts and computation methods.**

**4 A Write a detailed note on Decision Tree Induction.**

**OR**

**B What is Cluster Analysis? Explain in detail about partitioning methods.**

**5 A Explain about Mining complex data types and data mining trends.**

**OR**

**B Discuss in detail about proximity-based approaches for Outlier Analysis.**

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**FACULTY OF SCIENCE**  
**MSc (FOOD SCI & TECH) III SEMESTER (CBCS) EXAMINATIONS, JAN 2024**  
**APPLIED STATISTICS**  
**PAPER - II**

**TIME: 3 HRS]****[MAX. MARKS: 80]****SECTION - A (4 X 5 = 20 Marks)****1 Answer ALL the questions**

a Find the median for the following frequency distribution.

x:	1	2	3	4	5	6	7	8	9
f:	8	10	11	16	20	25	15	9	6

b Define Correlation and Regression with examples.  
 c Explain Chi-square test for goodness of fit.  
 d Define null hypothesis and alternative hypothesis with examples.

**SECTION - B (4 X 15 = 60 Marks)****Answer ALL questions**

2 A Explain various measures of central tendency. What are their merits and demerits?

**OR**

B Find the mean deviation and standard deviation for the following data

C.I	0-8	8-16	16-24	24-32	32-40	40-48
f:	2	8	17	12	7	6

3 A State and Prove Spearman's rank Correlation Coefficient.

**OR**

B Derive the regression equation of Y on X.

4 A Show that for a  $2 \times 2$  contingency table  $\chi^2 = \frac{N(ad - bc)^2}{(a+b)(c+d)(a+c)(b+d)}$ .

**OR**

B Explain the test procedure of t-test for difference of means.

5 A Explain briefly about types of sampling.

**OR**

B Carryout ANOVA one way classification.

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**526/FEB24/III-B**

**FACULTY OF SCIENCE  
M Sc (ZOOLOGY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024  
IMMUNOLOGY  
PAPER - II**

**TIME: 3 HRS**

**MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Epitopes and Haptens.
- b Cell death
- c HLA system of human
- d Hypersensitivity

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Explain about cell and tissues immunity aspects in detail.**

**OR**

**B What are Antibodies? Explain Primary and Secondary antibody responses.**

**3 A Write about T-cell components, maturation and differentiation.**

**OR**

**B Describe B cell receptors, activation and proliferation mechanism.**

**4 A Explain the structure and functions of Cytokines**

**OR**

**B Illustrate the components of Innate immune system and NK cells mechanism.**

**5 A Give an account on Bone marrow transplantation process and its advantages.**

**OR**

**B Explain about Acquired Immune Deficiency diseases in detail.**

**★★★★★**

FACULTY OF SCIENCE  
MSC (MICROBIOLOGY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024  
MEDICAL BACTERIOLOGY  
PAPER – II

TIME: 3 HRS]

[MAX. MARKS: 80

**SECTION - A (4 X 5 = 20 Marks)**

1 Write a short note on the following

- A Normal flora of human body
- B Non-specific lab tests
- C Systematic bacteriology
- D *Clostridium welchi*

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL Questions**

2 A Describe the principles of Medical Microbiology and its scope.

**OR**

B Write critical notes on (i) role of the resident folar (ii) occurrence of normal flora.

3 A Explain the properties of pathogens and factors influencing pathogenicity.

**OR**

B Describe the different types and sources of infections.

4 A Describe the different conventional & molecular lab test for diagnosis on the current scenario.

**OR**

B Explain two sexually transmitted diseases you studied & their treatment process.

5 A Write critical notes on (i) Epidemiology (ii) Pathogenesis.

**OR**

B Explain the prevention and treatment of water borne infections.

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**FACULTY OF SCIENCE**  
**MSc (NUTRITION & DIETETICS) III SEM (CBCS) EXAMS JAN/FEB 2024**  
**FOOD MICROBIOLOGY**  
**PAPER - II**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Explain the characteristics of bacteria and fungi.
- b Explain natural preservatives and their applications.
- c Write about hydrogen swell and ropiness in milk.
- d Explain the types of fermentation along with its benefits.

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Discuss the extrinsic factors affecting microbial growth.**

**OR**

**B Describe the importance of microbiology in food, space and industry.**

**3 A Discuss the principle involved in preservation of foods by irradiation is advantages and disadvantages.**

**OR**

**B Give a brief account on (i) dehydration (ii) use of chemical preservatives.**

**4 A Discuss in detail contamination and spoilage of milk and milk products.**

**OR**

**B Discuss in detail contamination and spoilage of poultry and eggs.**

**5 A Give a brief account on (a)tempeh(ii) fermented milks.**

**OR**

**B Give a brief account on (i) fermented pickles (ii) miso and natto.**

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**FACULTY OF SCIENCE**

**M. Sc (CHEMISTRY) III SEM (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**

**CONFORMATIONAL ANALYSIS, ASYMMETRIC SYNTHESIS & NON BENZENOID AROMATICS**

**(ORGANIC CHEMISTRY SPECIAL)**

**PAPER – II (NEW)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Write a note on stereochemistry of decalins
- b Explain Chemoselectivity with an example.
- c Write a note on stereochemical outcome in Simmons-Smith reaction
- d Write the generation of cyclopentadienyl anion and explain its aromatic character

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 a Explain the outcome of addition to carbonyl group in rigid cyclohexanone with examples.

**OR**

b Write the conformational analysis of piperidine and N-methyl piperidine.

3 a Explain the concepts Diastereomeric excess and Enantiomeric excess with examples.

**OR**

b Explain the outcome in Aldol reaction using achiral enolates with achiral aldehydes.

4 a Explain the enantioselective hydroboration with chiral boranes.

**OR**

b Write a note on Sharpless asymmetric epoxidation.

5 a Write the synthesis and aromatic properties of tropylium cation and cyclooctatetraenyl dianion.

**OR**

b What is Huckel rule and explain its applications and limitations?

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FACULTY OF SCIENCE

**M. Sc (CHEMISTRY) III SEM (CBCS OLD) EXAMINATIONS JAN/FEB 2024**  
**CONFORMATIONAL ANALYSIS, ASYMMETRIC SYNTHESIS & NON BENZENOID AROMATICS**  
**(ORGANIC CHEMISTRY SPECIAL)**  
**PAPER – II (OLD)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Write a note on stereochemistry of decalins
- b Explain Chemoselectivity with an example.
- c Write a note on stereochemical outcome in Simmons-Smith reaction
- d Write a note on the types of Resins.

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 a Explain the outcome of addition to carbonyl group in rigid cyclohexanone with examples.

**OR**

- b Write the conformational analysis of piperidine and N-methyl piperidine.

3 a Explain the concepts Diastereomeric excess and Enantiomeric excess with examples.

**OR**

- b Explain the outcome in Aldol reaction using achiral enolates with achiral aldehydes.

4 a Explain the enantioselective hydroboration with chiral boranes.

**OR**

- b Write a note on Sharpless asymmetric epoxidation.

5 a Describe the methods used in the Parallel Synthesis. Write a note on Haugaghton's tea bag procedure.

**OR**

- b Discuss the general principles in mixed combinatorial synthesis. Explain Furkash mix and split Combinatorial Synthesis.

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**FACULTY OF SCIENCE****M. Sc (CHEMISTRY) III SEM (CBCS NEW & OLD) EXAMINATIONS JAN/FEB 2024****CHEMICAL KINETICS, PHOTO CHEMISTRY, ELECTROCHEMISTRY & SUPRAMOLECULAR CHEMISTRY****(PHYSICAL CHEMISTRY SPECIAL)****PAPER – II (NEW & OLD)****TIME: 3 HRS]****[MAX. MARKS: 80****SECTION - A (4 X 5 = 20 Marks)****1 Answer ALL the questions**

- a What is isotope effect? Explain the difference between primary and secondary isotope effect.
- b Describe the ligand field and charge transfer electronic states of transition metal complexes with suitable examples.
- c Derive the Butler-Volmer equation. Explain its significance and limitations.
- d Give an account molecular switches and molecular wires.

**SECTION – B (4 X 15 = 60 Marks)****Answer ALL questions**

2 a i) Explain the Michaelis - Menten mechanisms of enzyme catalyzed reactions.  
ii) Write a brief note on relaxation methods.

**OR**

b i) Describe the Fischer's lock and keymodel of enzyme-substrate complex.  
ii) Explain the influence of pH on enzyme-catalyzed reactions

3 a i) Describe the various spectroscopic methods to study photochemical reactions.  
ii) Write a short note on photochemical cleavage of water.

**OR**

b Describe the different energy transfer mechanism of biomolecular quenching in detail.

4 a i) Discuss the theory of electrochemical corrosion with relevant chemical reactions.  
ii) Explain symmetry factor and its significance.

**OR**

b Explain various models of electrode-electrolyte interface.

5 a i) Explain the functioning of cyclodextrins and calixaranes as molecular receptors.  
ii) Describe the applications of supramolecular catalysis.

**OR**

b i) Explain the principles involved in designing molecular receptors.  
ii) Give an account on rotaxanes and catenanes.

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## FACULTY OF SCIENCE

## M.Sc. CHEMISTRY III SEM (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024

## BONDING GROUP THEORY AND IT'S APPLICATIONS - III

## (INORGANIC CHEMISTRY SPECIAL)

## PAPER - II

Time:3 Hours]

[Max. Marks: 80]

## SECTION - A (4 X 5 = 20 Marks)

## 1. Answer the following

- a) Derive matrix form for Rotational axis of symmetry (C<sub>n</sub>).
- b) Symmetry classification of metal orbitals in a Tetrahedral geometry.
- c) Relaxation in selection rules of electronic spectra of metal complexes.
- d) IR spectra of carbonyl complexes.

## SECTION - B (4 X 15 = 60 Marks)

## Answer ALL Questions

- 2. a) What is standard reduction formula? Expand its terms.
- b) Construct the character table for C<sub>2v</sub> point group.

**OR**

- c) Explain the properties of Irreducible representations.
- d) Explain the normal mode analysis of PH<sub>3</sub> molecule.

- 3. a) Construct the MO diagram of a tetrahedral metal complex involving sigma( $\sigma$ ) bonding.
- b) Explain the MO diagram of (Co(NH<sub>3</sub>)<sub>6</sub>)<sup>+3</sup> complex.

**OR**

- c) Explain the MO diagram of square planar metal complex involving  $\pi$  bonding and explain its features.
- d) Discuss the symmetry classification of metal orbitals in a square pyramidal geometry.

- 4. a) Explain the Tanabe-Sugano diagram for d<sup>8</sup> octahedral system.
- b) Write about Racah Parameter (B) and Nephelauxetic Ratio (□)

**OR**

- c) What are the factors affecting the band shapes in electronic spectroscopy?
- d) Describe the Orgel diagram of (Ni(H<sub>2</sub>O)<sub>6</sub>)<sup>+2</sup>
- 5. a) What are overtones, combination bands and hot bands? How do they occur? Explain.
- b) What are ambidentate ligands? Explain the ambidentate nature of NO<sub>2</sub> with the help of IR spectroscopy.

**OR**

- c) Discuss complementary nature of IR and Raman spectroscopy.
- d) Explain the effect of coordination on ligand vibrations in IR spectroscopy.

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**FACULTY OF SCIENCE**  
**M.Sc. (ENGG. PHYSICS & INSTR./PHYSICS) III SEM (CBCS) EXAMINATIONS, JAN/FEB 2024**  
**NUCLEAR PHYSICS**  
**PAPER – II**

**Time: 3 Hours]**

**[Max. Marks: 80]**

**SECTION – A (4 X 5 = 20 Marks)**

**1. Answer ALL the questions**

- a. Write a short note on semi empirical mass formula
- b. Write the similarities between n-p and p-p scattering.
- c. Describe nuclear fission based on liquid drop model
- d. Write the classification of elementary particles

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL the questions**

2. a) Explain in detail about Quantum numbers for individual nucleons

**OR**

b) Explain in detail about classical multipole moments for point charges by deriving an expression for potential due to point charge distribution and discuss about quadrupole moment of a nucleus

3. a) Discuss the theory of ground state of deuteron in detail and derive an expression for depth of potential well

**OR**

b) What is scattering length? Explain in detail about spin dependence of nuclear forces based on n-p scattering

4. a) Explain about nuclear fission and state different types of nuclear fission. [10 M]

b) Write a note on Fissile and Fertile materials [5 M]

**(OR)**

c) What is nuclear fusion and explain about production of stellar energy by proton-proton and carbon-nitrogen cycles. [10 M]

d) Write a note on fusion reactor [5 M]

5. a) Explain in detail about different Conservation laws of elementary particles

**(OR)**

b) Discuss in detail about the flavours of Quarks with quantum numbers [8 M]

c) Explain about Quark confinement [7 M]

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FACULTY OF SCIENCE  
M.Sc. (STATISTICS) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024  
QUALITY CONTROL AND OPTIMIZATION TECHNIQUES  
PAPER – II

TIME: 3 HOURS]

[MAX. MARKS: 80

**SECTION - A (4 X 5 = 20 Marks)**

1 **Answer ALL the questions**

- a Explain exponentially weighted moving average chart.
- b Explain the concept of sequential sampling plans.
- c What is the complementary slackness condition. What is its importance?
- d Explain ABC analysis.

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 A Define OC and ARL functions. Derive the same for chart for number of defectives.

**OR**

B What is capability analysis? Discuss its indices in detail.

3 A Explain continuous sampling plan-I and its properties.

**OR**

B Derive sample size for an inspection plan for variables when lower specification is given.

4 A Find the optimal solution to the following LPP using its dual.

Minimize  $Z = 5x_1 + 3x_2$  subject to the constraints  $2x_1 + 3x_2 \geq 5$ ;  $5x_1 + 3x_2 \geq 10$ ;  $x_1, x_2 \geq 0$

**OR**

B Explain the Gomory's cutting plane algorithm for pure and mixed IPP

5 A (i) Write the rules for the construction of a Network diagram.

(ii) Compare CPM and PERT Methods.

**OR**

B Derive EOQ formula for an inventory model with finite production rate and shortages permitted

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**SECTION-A (4 X 5 =20 Marks)**

1 **Answer ALL the questions.**

- a If  $B$  is a Banach space, prove that  $B$  is reflexive  $\Leftrightarrow B^*$  is reflexive.
- b If  $S$  is a non-empty subset of a Hilbert space, show that  $S^\perp = S^{\perp\perp\perp}$ .
- c Show that the adjoint operation  $T \rightarrow T^*$  on  $B(H)$  has the following property  
$$(T_1 + T_2)^* = T_1^* + T_2^*$$
- d Prove that if  $P$  is the projection on a closed linear subspace  $M$  of  $H$ , then  $M$  is invariant under an operator  $T \Leftrightarrow TP = PTP$ .

**SECTION-B (4 X 15 = 60 Marks)**

**Answer ALL the questions.**

2 A Let  $M$  be a closed linear subspace of a normed linear space  $N$ . If the norm of a coset  $x + M$  in the quotient space  $N/M$  is defined by  $\|x + M\| = \inf \{\|x + m\| : \text{for each } m \text{ in } M\}$ , then prove that  $N/M$  is a normed linear space. Further, if  $N$  is a Banach space, then so is  $N/M$ .

**OR**

B State and prove the Hahn-Banach theorem.

3 A (i) Prove that if  $B$  and  $B'$  are Banach spaces, and if  $T$  is a continuous linear transformation of  $B$  onto  $B'$ , then the image of each open sphere centered on the origin in  $B$  contains an open sphere centered on the origin in  $B'$ .  
(ii) State and prove the Closed Graph Theorem.

**OR**

B (i) For the special Hilbert space  $l_2^n$ , use Cauchy's inequality to prove Schwarz's inequality.  
(ii) Prove that if  $M$  is a proper closed linear subspace of a Hilbert space  $H$ , then there exists a non-zero vector  $z_0$  in  $H$  such that  $z_0 \perp M$ .

4 A (i) State and prove Bessel's Inequality.

(ii) Prove that an operator  $T$  on  $H$  is self-adjoint  $\Leftrightarrow (Tx, x)$  is real for all  $x$ .

**OR**

B (i) Prove that a Hilbert space  $H$  is separable  $\Leftrightarrow$  every orthonormal set in  $H$  is countable.

(ii) Prove that  $y \rightarrow f_y$  is a norm-preserving mapping of  $H$  into  $H^*$ .

5 A (i) If  $N_1$  and  $N_2$  are normal operators on  $H$  with the property that either commutes with the adjoint of the other, then prove that  $N_1 + N_2$  and  $N_1 N_2$  are normal.

(ii) Prove that an operator  $T$  on  $H$  is normal  $\Leftrightarrow \|T^*x\| = \|Tx\|$  for every  $x$ .

**OR**

B State and prove the spectral theorem.

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**FACULTY OF COMMERCE**  
**M.COM (GEN, CA) III SEM (CBCS NEW & OLD) EXAMINATIONS JAN/FEB 2024**  
**E-BUSINESS**  
**PAPER - II**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION - A (5 X 4 = 20 Marks)**

**1. Answer the following questions**

- a) What is E-Business?
- b) What is ISP?
- c) Write about E-Marketing?
- d) Write a note on Kerberos.
- e) What is HTML?

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL Questions**

- 2. a) Explain Meaning and Implementation of B2B E-Business Model.  
**(OR)**  
b) What is Mobile Commerce? Explain Framework and Models.
  
- 3. a) What is Extranet? What are the Applications of Extranet?  
**(OR)**  
b) What is Intranet? Explain Trends in Intranet relating to E-Business
  
- 4. a) What is E-CRM? Explain technology and applications associated with E-CRM  
**(OR)**  
b) Explain Drivers, Risks and Implementation of E-Procurement.
  
- 5. a) What is E-Security? Explain various Security Protocols.  
**(OR)**  
b) Explain the feature and provisions of Information Technology Act,2000
  
- 6. a) Briefly explain essential elements in designing a good website.  
**(OR)**  
b) What is Multimedia? Explain graphics and web image formats.

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**FACULTY OF COMMERCE**  
**M.COM (Financial Accounting) III SEM (CBCS NEW&OLD) EXAMS JAN/FEB 2024**  
**INDIAN FINANCIAL SYSTEM**  
**PAPER - II**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION - A (5 X 4 = 20 Marks)**

**1. Answer the following questions**

- a) What is Financial System?
- b) What is Call Money Market?
- c) IPO
- d) NSDL
- e) What are the functions of RBI?

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL Questions**

**2. a) Explain various markets and instruments in Indian Financial System.**

**(OR)**

- b) What is the role of financial system in economic development?

**3. a) What is Money Market? What are the Functions of Money Market?**

**(OR)**

- b) Explain in brief about Treasury bill market and Commercial Papers

**4. a) Explain in Detail about the following**

- i) Right issue
- ii) Private Placements
- iii) Preference Issues

**(OR)**

- b) Explain in Detail about the following

- i) ADRs
- ii) GDRs
- iii) FCCBs

**5. a) Explain Organisation and Management of Stock Exchange.**

**(OR)**

- b) What are the functions of National Securities Depository Ltd.

**6. a) What is Monetary Policy? Explain the features and concepts of monetary policy.**

**(OR)**

- b) What are the SEBI regulations to the Capital Market?

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**FACULTY OF SOCIAL SCIENCES**  
**MSW III SEMESTER (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**  
**SOCIAL WORK RESEARCH & SOCIAL STATISTICS**  
**PAPER - II**

**TIME: 3 HRS]**

**[MAX.MARKS: 80]**

**SECTION - A (5 X 4 = 20 Marks)**

**1 Answer ALL the questions**

- a Use of Scientific Method in Social Research
- b Context of Time Series Studies
- c Validity and Reliability Measurements
- d Measures of Dispersion
- e Writing Styles and Formats

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL questions**

**2 A Compare and contrast the social work research and social work practice.**

**OR**

**B Define hypothesis and explain the process of testing hypotheses with examples.**

**3 A Describe various purposes and types of research designs with appropriate illustrations.**

**OR**

**B Delineate salient features of participatory research methods and techniques.**

**4 A Present an overview of both probability and non-probability sampling methods**

**OR**

**B Discuss methods and tools used for the collection of primary data in social work research.**

**5 A Write an essay on the application of measures of central tendencies.**

**OR**

**B Give a brief account of interface and usage of Statistical Package for Social Science (SPSS).**

**6 A Compose an exhaustive research proposal on a topic that aligns with your interests.**

**OR**

**B Discuss important steps to be followed in report writing.**

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**FACULTY OF SOCIAL SCIENCES**  
**M.S.W. III SEMESTER (CBCS OLD) EXAMINATIONS JAN/FEB 2024**  
**SOCIAL WORK RESEARCH**  
**PAPER – II (OLD)**

TIME: 3 HRS]

[MAX.MARKS: 80]

**SECTION - A (5 X 4 = 20 Marks)**

1 **Answer ALL the questions**

- a Scientific Research
- b Variables
- c Exploratory Design
- d Random Sampling
- e Questionnaire/Observation

**SECTION-B (5 X 12 = 60 Marks)****Answer ALL questions**

2 A How is the scientific method applied in Social Science research? Provide examples.

**OR**

B What are the key characteristics of social research? How does it differ from other forms of inquiry?

3 A Examine essential components of a research proposal? Briefly explain the purpose of each component.

**OR**

B Discuss the general procedure and guidelines for writing a research report. What are some common pitfalls to avoid?

4 A What is research design, and why is it essential in the research process?

**OR**

B Explain the concept of participatory research methods and techniques. How do they involve the community in the research process?

5 A What is sampling, and why is it necessary in research?

**OR**

B Discuss the relative merits and demerits of probability sampling and non-probability sampling.

6 A What are primary and secondary sources of data, and how do they differ?

**OR**

B Describe the process of observation as a method of data collection. What are its advantages and limitations?

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**FACULTY OF ARTS**  
**M.A. (ENGLISH) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**INDIAN WRITING IN ENGLISH - I**  
**PAPER - III**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A (5 X 4 = 20 Marks)**

**1. Answer ALL the following questions**

- a) Caste and Class in Indian Fiction.
- b) Write main themes in “The Harp of India”.
- c) Explain the importance of the title *Rajmohan’s Wife*.
- d) The use of sthala purana in Kanthapura.
- e) Views on Nehru in “The Quest”.

**SECTION – B (5 X 12 = 60 Marks)**

**Answer ALL the following questions**

2. (a) Describe the impact of the various reform movements in 19<sup>th</sup> century on the Indian writing in English.

**(OR)**

(b) Explore the rise of the Indian Novel.

3. (a) Examine the magnificence of “Our Casuarina Tree” and comments on Toru Dutt’s technique of writing poetry.

**(OR)**

(b) Discuss Sri Aurobindo’s philosophy with reference to the poems prescribed for your study.

4. (a) Krupabai Satthianadhan’s Kamala is the emerging new Indian woman. Elaborate.

**(OR)**

(b) ‘Critically examine the representation of social and political aspects of Hyderabad in *Zohra*.

5. (a) Analyse *Untouchable* as a critique of caste system in India.

**(OR)**

(b) Discuss R.K Narayan’s *The Man-Eater of Malgudi* as a picaresque novel.

6. (a) Explain Ambedkar’s views in “The Annihilation of Caste”.

**(OR)**

(b) Discuss the major arguments of Arundhati Roy’s essay “The Ladies Have Feelings”?

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## Faculty of Arts

## M.A. (Urdu) III Semester Examination (CBCS) JAN/FEB 2024

## تیسرا پرچہ

## Afsana

(Time : 3 Hours)

Answer All the questions

Max Marks : 80

## Section - A

نوت: تمام سوالات حل کیے جائیں۔ ہر سوال کے چار نشانات مختص ہیں۔ ہر جواب پندرہ سطروں میں تحریر کیا جائے۔

(5x4=20)

1. افسانے کی تعریف کیجیے اور اس کے موضوعات پر رoshni ڈالیے۔
2. سجاد حیدر یلدرم کی افسانہ نگاری پر مختصر نوٹ لکھیے۔
3. عصمت چغتائی کے افسانوں کے عمومی موضوعات نشان زد کیجیے۔
4. انتظار حسین کی افسانہ نگاری کی نمایاں خصوصیات بیان کیجیے۔
5. افسانہ ”پرندہ پکڑنے والی گاڑی“ کے مرکزی خیال کی وضاحت کیجیے۔

## Section - B

نوت: تمام سوالات حل کیے جائیں۔ ہر سوال کے بارہ نشانات مختص ہیں۔ ہر سوال کا جواب چار صفحات سے زیادہ نہ ہو۔

(5x12=60)

6. (A) افسانے کے اجزاء ترکیبی کی تفصیل سے وضاحت کیجیے۔ یا  
(B) افسانے کی تکنیک اور اس کی صنفی خصوصیات پر اظہار خیال کیجیے۔
7. (A) پریم چند کی افسانہ نگاری کی امتیازی خصوصیات کا تجزیہ کیجیے۔ یا  
(B) اردو افسانے کے سفر میں ”انگارے“ کے افسانوں کی اہمیت واضح کیجیے۔
8. (A) اردو افسانے پر ترقی پسند تحریک کے اثرات کا جائزہ لے جیے۔ یا  
(B) منشو کے افسانے ”لوبہ ٹیک سنگھ“ کا تقدیمی محاکمہ کیجیے۔
9. (A) قرۃ العین حیدر کی افسانہ نگاری کے امتیازات پر رoshni ڈالیے۔ یا  
(B) قاضی عبدالستار کے افسانے ”پیٹل کا گھنٹہ“ کی سیاسی سماجی اور ثقافتی قدرتوں کی تجزیہ کیجیے۔
10. (A) چدید اردو افسانے کے فکری میلانات اور اس میں بیت اور تکنیک کے تجزیوں پر اظہار خیال کیجیے۔ یا  
(B) سریندر پرکاش کی کہانی ”بجوکا“ کے موضوع اور فن کا تقدیمی جائزہ لے جیے۔

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**FACULTY OF ARTS**  
**M.A (TELUGU) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**

**ఆధునిక తెలుగు సాహిత్య విమర్శ - I**

**పేపర్ - III**

**సమయం: 3 గంటలు]**

**[గరిష్ట మార్కులు : 80**

**సెక్షన్ - ఎ (5 X 4 = 20 మార్కులు)**

1 ఈ క్రింది వానిపై లఘు వ్యాఖ్య వ్రాయండి

- ఎ విమర్శ నిర్వచనాలు
- బి ప్రాచ్య కవిత్వ స్వరూపం
- సి నన్నయ్య కవితా దృక్పథం
- డి సి.పి.బ్రోన్
- ఇ బసవరాజు అప్పారావు

**సెక్షన్ - బి (5 X 12 = 60 మార్కులు)**

**అన్ని ప్రశ్నలకు సమాధానాలు వ్రాయండి**

2 ఎ విమర్శను నిర్వచించి దాని లక్షణాలను తెల్పండి

**లేదా**

- బి విమర్శ ప్రయోజనాలను గూర్చి వ్రాయండి
- 3 ఎ సంస్కృత ఆలంకారికుల కావ్య సిద్ధాంతాలను వివరించండి

**లేదా**

- బి పాశ్చాత్యుల సాహిత్య విమర్శ సూత్రాలను వివరించండి
- 4 ఎ ఆధునిక తెలుగు సాహిత్యవిమర్శ పై ఆంగ్ల ప్రభావాన్ని చర్చించండి

**లేదా**

- బి పాల్యురికి సోమను , శ్రీనాథుల కవితా దృక్పథాన్ని వివరించండి

5 ఎ ఆధునిక తెలుగు సాహిత్యవిమర్శ ఆరంభ రీతిని వివరించండి

**లేదా**

- బి ఆధునిక తెలుగు సాహిత్యవిమర్శవికాసంలో తొలితరంవిమర్శకుల పూతను వివరించండి

6 ఎ కాశీభట్ల బ్రహ్మాయ్య శాస్త్ర విమర్శ రచనల పద్ధతిని చర్చించండి

**లేదా**

- బి విమర్శకునిగా అక్కిరాజు ఉమాకాంతం ప్రత్యేకతను చర్చించండి

★★★★★

**FACULTY OF SOCIAL SCIENCES**  
**M A (SOCIOLOGY) III SEM (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**  
**DEVELOPMENT MANAGEMENT AND RESEARCH (NEW)**  
**PAPER - III**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (5 X 4 = 20 Marks)**

**1 Answer ALL the questions**

- a Social Impact of Gender Discrimination
- b Natural Resource Management
- c Welfare Administration in India
- d Content Analysis
- e Funding Agencies

**SECTION – B (5 X 12 = 60 Marks)**

**Answer ALL questions**

**2 A Write an essay on the concept of growth with equity with suitable examples.**

**OR**

**B Present unemployment as one of major social issue in contemporary India.**

**3 A Give a brief account on various fields of development with apt illustrations.**

**OR**

**B How do you, as a developmental researcher, offer your views on the distribution of wealth? Explain.**

**4 A Analyse the role of Non-Governmental Organizations (NGOs) in development.**

**OR**

**B Delineate significant changes took place onslaught of implementation of Corporate Social Responsibility.**

**5 A Discuss the application of Participatory Rural Appraisal (PRA) in developmental research.**

**OR**

**B Explain the advantages and disadvantages of quantitative tools used in development research.**

**6 A Draft an assumed proposal for any kind of development project from your studies or experience.**

**OR**

**B Sketch various stages of project life cycle with appropriate examples.**

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**FACULTY SOCIAL SCIENCES**  
**M. A (SOCIOLOGY) III SEMESTER (CBCS OLD) EXAMINATIONS JAN/FEB 2024**  
**INDIAN SOCIETY: STRUCTURE & CHANGE (OLD)**  
**PAPER - III**

**TIME: 3 HRS]**

**[MAX.MARKS: 80]**

**SECTION - A (5 X 4 = 20 Marks)**

1 **Answer ALL the questions**

- a Indological/Textual Perspective
- b Varnashramas/Buddhism
- c Sufism/ Beauracracy
- d Max Weber/Raja Ram Mohan Roy
- e Secularism / Casteism

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL questions**

2 A What are the key features of the Indological or Textual perspective in the study of Indian Society

**OR**

B Describe the subaltern perspective and name any two prominent scholars who contributed to this perspective.

3 A Explain the concept of rebirth(reincarnation) in ancient and contemporary Indian contexts. How is it interpreted in Hinduism and other religions?

**OR**

B Describe the features of caste system in india . Discuss the theories of the origin of caste and their implications for society ?

4 A Write an essay on the main characteristics of Sufism and the Bhakti movement in India ?

**OR**

B Discuss the agrarian social structures prevalent during the colonial period and the factors that led to social unrest.

5 A How did Raja Ra Mohan Roy and Dayananda Saraswati contribute to changing Indian society for the better ?

**OR**

B What were the significant contributions of B.R. Ambedkar to the Indian society particularly marginalised communities

6 A What is castesim, and how does it manifest in Indian society? provide examples of how caste influences social interactions and opportunities?

**OR**

B What are the constitutional provisions aimed at addressing the welfare of Scheduled Castes (SC) , Scheduled Tribes (ST) and Other backward castes .

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**FACULTY OF SOCIAL SCIENCES**  
**M. A (ECONOMICS) III SEMESTER (CBCS) EXAMINATION JAN/FEB 2024**  
**PUBLIC ECONOMICS**  
**PAPER – III**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (5 X 4 = 20 Marks)**

**1 Answer ALL the questions**

- a Define Public Finance
- b What is Public Choice?
- c Write note on rationale for public policy.
- d Define Public Expenditure.
- e What is Taxation?

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL questions**

**2 A Explain the Role of state in economic activities.**

**OR**

- B Discuss the Multiple theories of public household.

**3 A Write about the Private and public mechanism of allocating resources.**

**OR**

- B Examine the Rent seeking and Direct unproductive profit seeking activities.

**4 A Analyze the Voluntary exchange models.**

**OR**

- B What are the measures for removing distributional inequalities and regional imbalances.

**5 A Examine the Wagner's law of increasing state activities.**

**OR**

- B Explain the role of Cost-Benefit Analysis in Project evaluation.

**6 A Write about the Approaches to taxation.**

**OR**

- B Examine the Incidence and shifting of taxation.

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**FACULTY OF SCIENCE**  
**MSC (BOTANY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**TISSUE CULTURE AND PLANT BIOTECHNOLOGY**  
**PAPER – III (B)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Write a short note on the following**

- A Meristem culture
- B Hairy root cultures
- C Genomic library
- D Stress tolerance in plant

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL Questions**

**2 A Define totipotency and cyto-differentiation. Explain the different techniques involved in tissue culture.**

**OR**

- B Explain the callus mediated *in vitro* regeneration and establishment of plantlet.

**3 A Give a detailed account on generation of androgenic haploids and its importance.**

**OR**

- B Explain the in vitro production of secondary metabolites from medicinal plants.

**4 A Describe the principles and techniques involved in gene cloning.**

**OR**

- B Explain the different types of blotting techniques and their importance.

**5 A Explain the different strategies for development of transgenics and their benefits.**

**OR**

- B Describe the technique and instrument involved in polymerase chain reaction.

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**FACULTY OF SCIENCE**  
**MSc (COMP SCI) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**NETWORK SECURITY**  
**PAPER – III (A)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a List out Computer Security Concepts.
- b Write a short note on The Origins AES.
- c Write a short note on Cryptographic Hash Functions.
- d Write a short note on Transport-Level Security.

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A What is Encryption? Explain in detail the Symmetric Cipher Model.**

**OR**

**B Define DES. Explain in detail the Strength of DES.**

**3 A Explain in detail about AES implementation with an example.**

**OR**

**B What is a Public Key? Explain in detail about Diffie-Hellman key Exchange.**

**4 A What are Hash Functions? Explain in detail about the MD5 Algorithm.**

**OR**

**B What are Message Authentication Functions? List out Requirements for Message Authentication Codes.**

**5 A Explain in detail about Pretty Good Privacy.**

**OR**

**B What is a Firewall? Explain in detail the Firewall Design Principles.**

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**FACULTY OF SCIENCE**  
**MSc (FOOD SCI & TECH) III SEM (CBCS) EXAMINATIONS JAN/FEB 2024**  
**TECHNOLOGY OF SUGAR CONFECTIONARY & CHOCOLATE PROCESSING**  
**PAPER – III (A)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a What are speciality fats explain.
- b What is the difference between caramel and fudge explain.
- c Explain about lozenges.
- d Write about cocoa butter substitutes.

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Discuss the important properties of sugar and nut kernels.**

**OR**

- B Describe the structure and composition of confectionery.

**3 A Discuss the manufacture of liquorice paste.**

**OR**

- B Describe the methods of manufacture of hard-boiled confectionery.

**4 A Describe in detail flour confectionery.**

**OR**

- B Describe the manufacture of sugar panned sweets.

**5 A Describe the manufacture of chocolate bars.**

**OR**

- B Briefly describe the different steps involved in chocolate processing technology.

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**FACULTY OF SCIENCE**  
**M Sc (ZOOLOGY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**PARASITOLOGY**  
**PAPER – III (A)**

**TIME: 3 HRS**

**MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

1 **Answer ALL the questions**

- a Parasitic adaptations
- b Intestinal flagellates
- c Echinococcus morphology
- d VSG gene expression.

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 A What are host and parasites? Explain about animal associations.

**OR**

B Describe the mode of transmission of Parasites.

3 A Write the morphology, life cycle and pathogenicity of Trypanosoma

**OR**

B Explain about morphology, life cycle and prophylaxis measures of Diphyllobothrium.

4 A Describe the life cycle, transmission and control methods of Wuchereria

**OR**

B What are cyst nematodes? Add a note on plant-soil nematodes and significance.

5 A Give an account on resistance of malaria to drugs and its mechanism.

**OR**

B Define Polyspermy? Explain about sex-linked inheritance in Schistosomes

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**FACULTY OF SCIENCE**  
**MSC (MICROBIOLOGY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**INDUSTRIAL MICROBIOLOGY**  
**PAPER - III**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

1 **Write a short note on the following**

- A Amylase producers
- B Starchy fermentative raw materials
- C Lactic acid production
- D Mutational strain improvement

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL Questions**

2 A Give introduction, history and scope of Industrial Microbiology.

**OR**

- B Explain the designs of Fermenter and its features.

3 A Describe the inoculums preparation and steps for aseptic handling.

**OR**

- B Write about Fermentative media & Sterilization.

4 A Write on Batch, Fed batch and Continuous fermentations.

**OR**

- B Describe the down streaming process of fermentation process.

5 A Explain the environmental and genetic factors of Strain improvement.

**OR**

- B Write an essay on different immobilization methods and significances.

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**FACULTY OF SCIENCE**  
**MSc (NUTRITION & DIETETICS) III SEM (CBCS) EXAMS JAN/FEB 2024**  
**FOOD SERVICE MANAGEMENT**  
**PAPER - III**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Write the principles of management.
- b Explain factors to be considered while planning storage spaces.
- c Write the importance of menu planning.
- d Explain components of cost.

**SECTION – B (4 X 15 = 60 Marks)**  
**Answer ALL questions**

**2 A Discuss the functions of management.**

**OR**

**B Briefly explain the types of food service establishments.**

**3 A Discuss in detail the classification of equipment with examples and their functions.**

**OR**

**B Describe in detail about kitchen space, sizes and types.**

**4 A Describe the guidelines for storage of perishable and non-perishable foods.**

**OR**

**B Discuss the different styles of food services in detail with their advantages and disadvantages.**

**5 A Describe the purpose of food labelling and their types.**

**OR**

**B Briefly explain evolution of IPR and concept of contribution and breakeven.**

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**FACULTY OF SCIENCE**  
**M. Sc (CHEMISTRY) III SEM (CBCS NEW & OLD) EXAMS JAN/FEB 2024**  
**MODERN ORGANIC SYNTHESIS**  
**(ORGANIC CHEMISTRY SPECIAL)**  
**PAPER – III (NEW & OLD)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Explain the oxidation of alcohols using Swern oxidation method
- b Write a note on Baylis-Hilman reaction
- c Explain the terms synthon and synthetic equivalent with examples
- d What is strategic bond?

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 a Write the Prevost and Woodward oxidation reactions and explain stereochemical outcome of the products

**OR**

b Explain the reduction of carbonyls with  $\text{LiAlH}_4$  and compare its reactivity with  $\text{NaBH}_4$

3 a What is Suzuki coupling? Write the reaction mechanism and advantages of Suzuki coupling over other coupling reactions

**OR**

b Write a note on Peterson's stereoselective olefination reaction

4 a Explain and differentiate linear and convergent synthesis with examples

**OR**

b Explain the disconnections in carbonyls and alcohols

5 a Explain two group c-c and c-x disconnections with examples

**OR**

b Highlight the disconnection approach in the synthesis of (+) Disparlure?

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**FACULTY OF SCIENCE**  
**M. Sc. (CHEMISTRY) III SEM (CBCS NEW & OLD) EXAMINATIONS JAN/FEB 2024**  
**QUANTUM CHEMISTRY AND GROUP THEORY**  
**(PHYSICAL CHEMISTRY SPECIAL)**  
**PAPER – III (NEW & OLD)**

**Time: 3 Hrs]**

**[Max. Marks: 80]**

**SECTION – A (4 × 5 = 20 Marks)**

**1. Answer all the Questions**

- a. What is Zeeman effect?
- b. Write a note on Slater type orbitals.
- c. What is Born-Oppenheimer approximation?
- d. Give an account of reducible and irreducible representations.

**SECTION – B (4 × 15 = 60 Marks)**

**Answer ALL Questions**

2. a. What is Rigid rotator? Obtain wave function expression for rigid rotator.

**OR**

- b. Discuss in detail about Harmonic oscillator and derive wave function expression for it.

3. a. What is perturbation theory? Explain.

**OR**

- b. Discuss variation method for Hydrogen atom.

4. a. Explain Molecular orbital theory of water molecule.

**OR**

- b. Derive wave function expressions for  $sp^3$  hybrid orbitals.

5. a. Explain in detail Great Orthogonality theorem.

**OR**

- b. Construct character table for  $C_{2v}$  and  $C_{3v}$  point groups.

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**FACULTY OF SCIENCE**

**M.SC. (CHEMISTRY) III SEM (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**

**ORGANOMETALLIC CHEMISTRY OF TRANSITION METAL COMPLEXES - III**

**(INORGANIC CHEMISTRY SPECIAL)**

**PAPER – III (A)**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1. Answer ALL the following**

- a) Classification of organometallics based on hapticity.
- b) Use of  $C_8H_8$  as a ligand.
- c) Hydrosilylation of olefins.
- d) Use of Templates

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL Questions**

- 2 a) Explain the structure and bonding in metal–alkene ( $\eta^2$ ) complexes.  
b) What are  $\beta$ -elimination reactions?

**OR**

- c) Discuss the structure and bonding in metal-butadiene complexes.
- d) Explain about fluxionality and reactions of  $\eta^3$ -allyl complexes.

- 3. a) Describe the structure and bonding of ferrocene  
b) Discuss electrophilic substitution reactions of ferrocene

**OR**

- c) Discuss the structure and bonding in Di-Benzene chromium complex
- d) Explain the preparation methods and reactions of  $\eta^7$ -complexes.

- 4. a) What is Zeigler Natta catalyst? Explain its application in the polymerization of olefins.  
b) What are Oxidative addition and Reductive elimination reactions?

**OR**

- c) Discuss the oxidation of ethylene to acetaldehyde by Wacker's method
- d) write a note on Hydrogenation of olefins using Wilkinson's catalyst.

- 5. a) Explain the reaction and mechanism of catalyzed hydroformylation of olefins  
b) Write a note on enzyme analogue catalysis with suitable examples.

**OR**

- c) Explain the Fischer–Tropsch process.
- d) Discuss the mechanism of water-gas shift reaction.

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FACULTY OF SCIENCE

**M.Sc.(Engg.Phys. & Instr.) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**

**MICROPROCESSORS AND MICROCONTROLLERS**

**PAPER - I**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A (4 × 5 = 20 Marks)**

**1. Answer ALL the following**

- a. Write five major differences between microprocessor and microcontroller
- b. Explain the different timer/counter modes of 8051.
- c. Define machine cycle and instruction cycle.
- d. Describe the function of the following signals of 8086.
  - i) INTR , ii) READY, iii) HOLD

**SECTION – B (4 × 15 = 60 Marks)**

2. a) Draw and explain the architecture of an 8051 microcontroller in detail.

**(OR)**

- b) Explain different addressing modes of 8051 with the help of examples and explain MOV, PUSH, and POP instructions.

3. a) Describe the Internal data memory organization of 8051 microcontrollers and Explain PSW of 8051 microcontroller

**(OR)**

- b) Write an assembly language program in 8051 to toggle bit P1.5 continuously every 50ms. Use timer 0, Mode 1 to create the delay. (assume that XTAL = 12 MHZ)

4. a) Write an 8086-assembly program to find the largest number from a list of numbers.

**(OR)**

- b) Write an 8086-assembly program to sort five numbers in ascending order.

5. a) Explain the operation of 8255 PPI Port A programmed as input and output in Mode 1 with necessary handshaking signals.

**(OR)**

- b) Draw the internal architecture of 8086 microprocessor and explain the function of each block in detail .

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**FACULTY OF SCIENCE**  
**M.Sc. (PHYSICS) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**CRYSTALLOGRAPHY AND BAND THEORY OF SOLIDS**  
**(SOLID STATE PHYSICS SPECIAL)**  
**PAPER - III**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A (4 × 5 = 20 Marks)**

**1. Answer ALL the following**

- a. Write the structure factor for Face center cubic (FCC) crystal.
- b. Write the expression for the Fermi-Dirac distribution function and discuss its behavior with change in temperature.
- c. Show that the effective mass of an electron in a crystal is inversely proportional to the second derivative of the  $E-k$  curve.
- d. Distinguish between the Electron orbits, Hole orbits and Open orbits.

**SECTION – B (4 × 15 = 60 Marks)**

**Answer ALL Questions**

2. a) What is Bragg's law? Describe the powder method for x-ray diffraction. Discuss the formation of diffraction pattern on the photographic film.

**(OR)**

b) Discuss in detail what types of factors affecting intensities of diffracted x-rays.

3. a) Discuss the formation of allowed and forbidden energy bands on the basis of the Kronig - Penney model. Discuss the extreme conditions when energy levels are either discrete or continuous.

**(OR)**

b) Derive expressions for the electrical conductivity and thermal conductivity of ohms law in metals. And state the Weidman Franz law for metals?

4. a) Discuss in detail the number of carriers in thermal equilibrium with intrinsic and extrinsic cases.

**(OR)**

b) Discuss the general physical aspects of the non-equilibrium case of inhomogeneous semiconductors.

5. a) Discuss the Tight binding approximation method of energy bands.

**(OR)**

b) Discuss the quantization of orbits in a magnetic field and give an account of a de Haas-van Alphen effect.

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## M.Sc.(Physics) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024

## MICROPROCESSORS AND INTERFACING

## (ELECTRONICS SPECIAL)

## PAPER - III

Time: 3 Hours]

[Max. Marks: 80]

## SECTION-A (4 × 5 = 20 Marks)

## 1. Answer ALL the following

- a. Write an ALP to find the sum of the first 10 integers.
- b. Explain (a) XLAT, (b) XCHG
- c. Describe concept of pipelining in 8086
- d. Differentiate 8086 and 8088 microprocessors.

## SECTION – B (4 × 15 = 60 Marks)

## Answer ALL Questions

- 2. a) Explain the Architectural Design of the 8086 Microprocessor with a neat figure  
(OR)  
b) Discuss the different addressing modes of 8086 with examples
- 3. a) Explain the memory organization of 8086 microprocessor. Draw the timing diagram of a typical memory machine cycle.  
(OR)  
b) Write an 8085-assembly language program to arrange the following numbers in descending order and also provide a flow chart: Given number are 29H, 47H, 06H, 03H
- 4. a) Describe the interfacing of DAC with 8086.  
(OR)  
b) Describe the interfacing of 8255 with 8086.
- 5. a) Draw the memory map of 80386 when operated in protected mode, real mode. Explain how to change the modes.  
(OR)  
b) With a neat figure, explain the internal structure of the Pentium Pro Processor.  
c) Explain SIMD technology.

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**FACULTY OF SCIENCE**

**M.SC. (STATISTICS) III SEMESTER (CBCS) EXAMINATIONS JAN 2024**

**APPLIED REGRESSION MODELS**

**PAPER - III (A)**

**Time 3 Hours]**

**[Max Marks: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1. Answer ALL the following questions.**

- a) Define the Partial and sequential F-tests.
- b) Obtain growth models from monomolecular model.
- c) Define a probit model and illustrate with an example.
- d) State the necessity for Robustness.

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL Questions**

**2 a)** Explain “All Possible Regression” method to select a best linear regression with four variables and discuss its limitations.

**OR**

**b)** Write the steps involved in selecting the best Regression using Step-Wise Regression method. State its advantages and disadvantages.

**3 a)** Explain the procedure of obtaining estimated values for parameters in a Non-linear Regression using least squares. Discuss the difficulties involved in obtaining estimates

**OR**

**b)** Explain the Gauss-Newton Method in obtaining solution for parameters of non-linear regression. Illustrate it with a suitable example.

**4 a)** Derive the procedure for obtaining the Multiple-logistic Regression model. Also obtain the procedure for testing the significance of the coefficients in the model.

**OR**

**b)** How can you estimate the parameters with dichotomous independent variable in case of in logistic regression model. Explain?

**5 a)** Explain the methods: (i) Least Absolute Deviations Regression and (ii) Robust Regression with Ranked Residuals.

**OR**

**b)** Obtain the estimates for variance components of two-way classified random effect model.

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**FACULTY OF SCIENCE**  
**M.Sc. (MATHEMATICS) III SEM (CBCS R-22 NEW) EXAMS JAN/FEB 2024**  
**OPERATIONS RESEARCH**  
**PAPER – III (A)**

**TIME: 3 HRS]****[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions.**

- a Define the following terms in LPP:
  - i. Feasible solution
  - ii. Basic feasible solution
  - iii. Optimal solution
- b Write the major steps of Big-M method.
- c Explain the Modified Distribution Method for finding the optimal solution of transportation problem.
- d State restriction on assignment problem.

**SECTION-B (4 X 15 = 60 Marks)**

**Answer ALL the questions.**

**2 A a) Use the graphical method to solve the following LP problem.**

$$\text{Maximize } Z = 15x + 10y$$

Subject to  $4x + 6y \leq 360$ ,  $3x + 0.y \leq 180$ ,  $0.x + 5y \leq 200$  and  $x, y \geq 0$ .

b) Find all the basic feasible solutions of the equations

$$2x_1 + 6x_2 + 2x_3 + x_4 = 3, \quad 6x_1 + 4x_2 + 4x_3 + 6x_4 = 2 \quad \text{and} \quad x_1, x_2, x_3, x_4 \geq 0.$$

Show that all the basic solutions are degenerate. [6+9=15 Marks]

**OR**

**B Consider the following LPP's:**

$$\text{Minimize } z = (-1 + 2\lambda)x_1 + (-3 + \lambda)x_2$$

$$\text{subject to } x_1 + x_2 \leq 6, \quad -x_1 + 2x_2 \geq 0,$$

and  $x_1 \geq 0, x_2 \geq 0$ , where  $\lambda \geq 0$  is a parameter.

Using simplex method show that  $(x_1, x_2) = (2, 4)$  provides the optimal solution when  $\lambda = 0$ . Determine all the other values of  $\lambda$  for which  $(2, 4)$  continues to provide the optimal solution. [10+5 = 15 Marks]

**3 A a) Write major steps involved in two-phase simplex method.**

b) Solve by two-phase simplex method

$$\text{Minimize } z = 4x_1 + 3x_2 + 9x_3$$

$$\text{Subject to } 2x_1 + 4x_2 + 6x_3 \geq 15, \quad 6x_1 + x_2 + 6x_3 \geq 12 \quad \text{and} \quad x_1, x_2, x_3 \geq 0.$$

[5+10=15 Marks]

**OR**

**B For the following L.P.P.**

$$\text{Minimize } z = -(3/4)x_1 + 20x_2 - (1/2)x_3 + 6x_4$$

$$\text{Subject to } (1/4)x_1 - 8x_2 - x_3 + 9x_4 \leq 0, \quad (1/2)x_1 - 12x_2 - (1/2)x_3 + 3x_4 \leq 0,$$

$$x_3 \leq 1 \quad \text{and} \quad x_1, x_2, x_3, x_4 \geq 0$$

a) Write dual of the above L.P.P

b) Solve the primal problem.

c) Write the solution to the dual problem and give economic interpretation.

[3+8+4=15 Marks]

(Contd....)

4 A a) Show that the transportation problem always has a feasible solution.  
 b) Explain the Vogel's Approximation methods for finding initial basic feasible solution of transportation problem. [8+7=15 Marks]

**OR**

B a) Formulate the following linear programming problem into transportation problem

$$\text{Minimize } Z = 5x_{11} + 6x_{12} + 7x_{13} + 3x_{21} + 7x_{22} + 4x_{23} + 8x_{31} + 5x_{32} + 4x_{33}$$

$$\text{Subject to } x_{11} + x_{12} + x_{13} = 50, x_{21} + x_{22} + x_{23} = 60, x_{31} + x_{32} + x_{33} = 40$$

$$x_{11} + x_{21} + x_{31} = 30, x_{12} + x_{22} + x_{32} = 55, x_{13} + x_{23} + x_{33} = 65$$

and  $x_{ij} \geq 0$ , where  $i = 1,2,3$  and  $j = 1,2,3$ .

b) Find the initial basic feasible solution by North-West Corner Method.

c) Find the optimum solution to the above formulated transportation problem.

[4+6+5 =15 Marks]

5 A a) Explain the Hungarian method to solve an assignment problem.  
 b) A marketing manager has 5 salesman and there are 5 sales districts. Considering the capabilities of the salesman and the nature of districts, the estimates made by the marketing manager for the sales per month (in 1,000 rupees) for each salesman in each district would be as follows

	A	B	C	D	E
1	33	38	40	28	40
2	40	24	28	21	36
3	41	27	33	30	37
4	22	38	41	36	36
5	29	33	40	35	39

Find the assignment of salesman to the districts that will result in the maximum sales.  
 If possible, find an alternative solution to this problem. [7+8=15 Marks]

**OR**

B A machine operator processes five types of items on his machine each week and must choose sequence for them. The set-up cost per change depends on the items presently on the machine and item to be made, according to the table.

	A	B	C	D	E
A	$\infty$	4	7	3	4
B	4	$\infty$	6	3	4
C	7	6	$\infty$	7	5
D	3	3	7	$\infty$	7
E	4	4	5	7	$\infty$

If he produces each type of item once and only once each week, how should he sequence the item on his machine in order to minimize the total setup cost. [15 Marks]

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**FACULTY OF COMMERCE**  
**M.COM (GEN, CA, FA) III SEM (CBCS R-22 NEW) EXAMS JAN/FEB 2024**  
**BUSINESS RESEARCH METHODS**  
**PAPER - III**

**Time: 3 Hours]**

**[Max . Marks: 80**

**SECTION - A (5 X 4 = 20 Marks)**

**1. Answer ALL the following questions**

- a) Scientific Investigation.
- b) Problem Definition.
- c) Case Study
- d) Differentiate between Questionnaire and schedule
- e) What is Bibliography?

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL the questions**

- 2. a) What is Business Research? Explain different types of Research.  
**(OR)**  
b) Explain the application of business research to solve business problem.
- 3. a) Explain various steps involved in Business Research Process?  
**(OR)**  
b) What is Theoretical Framework? Explain the components of it.
- 4. a) What is research design? Explain various types of research designs.  
**(OR)**  
b) "Processing of data implies editing, coding, classification and tabulation." Describe in brief these four operations pointing out the significance of each in context of research study.
- 5. a) What do you mean by Primary Data? Explain various sources of collecting it.  
**(OR)**  
b) Explain how statistical techniques can be used in Business Research?
- 6. a) Present various steps involve in the preparation of a Business Research Report.  
**(OR)**  
b) What are characteristics of good research report and what precautions are to be taken in writing research report?

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**FACULTY OF COMMERCE**  
**M.COM III SEMESTER (CBCS OLD) EXAMINATIONS JAN/FEB 2024**  
**FINANCIAL MARKETS AND INSTITUTIONS (OLD)**  
**PAPER - III**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A (5 X 4 = 20 Marks)**

**1. Answer the following questions**

- a) What is Financial System?
- b) What is Commercial Bill Market?
- c) Right issue and Bonus issue.
- d) FCCB.
- e) Monetary policy.

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL the questions**

**2. a) Explain in brief about following.**

- i) Financial Institutions
- ii) Financial Instruments
- iii) Financial Services

**(OR)**

**b) Discuss the role of financial system in economic development.**

**3. a) What is money market? Explain the functions of Money Market.**

**(OR)**

**b) Explain in detail about Call money market and Treasury bill market.**

**4. a) What is Capital Market? Explain recent developments of capital market in India.**

**(OR)**

**b) What is new issue market? Explain various players in new issue market**

**5. a) What is Stock Exchange? Explain Trading and settlement systems.**

**(OR)**

**b) Critically examine the recent developments in stock market in India.**

**6. a) Explain the functions and role of Reserve Bank of India.**

**(OR)**

**b) What are the SEBI regulations to investor's education and protection?**

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**FACULTY OF COMMERCE**  
**MCOM (Comp. Appl.) III SEMESTER (CBCS OLD) EXAMINATIONS JAN/FEB 2024**  
**SOFTWARE PROJECT MANAGEMENT (OLD)**  
**PAPER - III**

**TIME: 3 HRS]**

**[MAX. MARKS: 60**

**SECTION - A (5 X 2 = 10 Marks)**

**1 Answer ALL the Questions**

- A What do you understand by Software Project Management?
- B Discuss the Spiral Model
- C What are the objectives of Activity Planning?
- D What do you mean by Monitoring and control?
- E What do you mean by managing the people?

**SECTION – B (5 X 10 = 50 Marks)**

**Answer ALL Questions**

**2 A Explain the project management problems with software projects.**

**OR**

- B What do you mean by Project Evaluation? Describe the different types of evaluation

**3 A Describe in detail about Technical plan content list and process models.**

**OR**

- B What is software effort estimation? Explain the estimating techniques.

**4 A Write down following words in detail**

- 1) Forward Pass 2) Backward Pass 3) Critical Path

**OR**

- B What is Risk Management? Explain the different types of risks.

**5 A How to creating the framework? Discuss the collecting data and visualizing process.**

**OR**

- B What do you mean by managing contracts? Discuss the stages of contract placement.

**6 A Describe in detail the Oldham-Hack man job characteristics model**

**OR**

- B What is Software Quality? Discuss the techniques to help enhance software quality.

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**FACULTY OF COMMERCE****M.Com. (FA) III SEMESTER (CBCS OLD) EXAMINATIONS JAN/FEB 2024****ACCOUNTING IN BANKING AND INSURANCE (OLD)****PAPER - III****Time: 3 Hours]****[Max. Marks: 80****SECTION - A (5 X 4 = 20 Marks)****1. Answer all the questions**

- a) Priority Lending
- b) Objectives of Life Insurance.
- c) Statutory Reserve
- d) What is Reinsurance?
- e) Marine Insurance

**SECTION - B (5 X 12 = 60 Marks)**

- 2. a) What is RBI? Explain the functions of Reserve Bank of India.  
**(OR)**  
b) What are major banking sector reforms in India? Explain in detail.
- 3. a) What is Life Insurance? Explain different types of Life Insurance Policies.  
**(OR)**  
b) Explain the differences between Traditional and ULIP insurance plans.
- 4. a) Explain various books and registers maintained by a Banking Company.  
**(OR)**  
b) Prepare a Profit and loss account of ABC Bank Ltd for the year ended 31-3- 2018

<b>Particulars</b>	<b>Rs.</b>	<b>Rs.</b>
Interest on Fixed Deposits	162410	---
Rebate on Bills discounted	29000	---
Interest on Loans	---	45000
Commission charged to customers	---	6625000
Establishment	15000	---
Discount on bills discounted	---	89000
Interest on cash credit	---	24000
Amount charged against current account	---	71500
Directors Fee	10000	---
Audit Fees	20000	---
Postage and Telegram	2000	---
Printing and Stationery	4000	---
Rent and taxes	22500	---
Interest on Overdraft	---	71000
Sundry Charges	1500	---
Interest on Savings Bank Deposits	57780	---

**(Contd.....)**

5. a) What are general principles to be observed while preparing final statements of life insurance companies.  
**(OR)**

b) The Revenue Account of a life insurance company shows the Life Fund at the end of the year 2020 at Rs. 31,20,800 before taking into account the following items:

1. Claims intimated but not admitted Rs. 40,000
2. Bonus utilised in reduction of premium Rs. 6,500
3. Interest accrued on securities Rs. 12,500
4. Outstanding premiums Rs.11,000
5. Claims covered under re-insurance Rs.12,000

Pass the necessary journal entries, giving effect to the above omissions.

6. a) Prepare with Imaginary figures Revenue Account of a Fire Insurance Company  
**(OR)**

b) On 15th February 2017, a fire occurred in the premises of a company. From the following particulars ascertain the amount of claim to be lodged in case of loss of stock which was insured.

Stock on 1st January 2017	Rs. 1,00,000
Purchases from 1st Jan, 2017 to the date of fire	Rs. 1,50,000
Wages	Rs. 50,000
Manufacturing Expenses	Rs. 30,000
Sale from 1st Jan. 2017 to the date of fire	Rs. 21,40,000
The gross profit ratio is 25%	
The stock salvaged was valued at	Rs. 19,500

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**FACULTY OF SOCIAL SCIENCES**

**M. S. W III SEMESTER (CBCS NEW & OLD) EXAMINATIONS JAN/FEB 2024**  
**URBAN AND COMMUNITY DEVELOPMENT - I**  
**PAPER – IV (A)**

**TIME: 3 HRS]**

**[MAX.MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a The current issues in urban areas.
- b Characteristics of Urban Community.
- c Issues of Slums in India.
- d Role of Urban Development Authorities.

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A What is migration? Discuss the migration of rural to urban issues and its challenges.**

**OR**

**B Explain the concept of urban community and Demographic and occupational characteristics of urban India**

**3 A Elaborate on the basic principles of urban community development and its significance.**

**OR**

**B Describe the issues of urban community development and what are the strategies needed for urban community development.**

**4 A Describe the concept, characteristics, and theories of slums with suitable examples.**

**OR**

**B Characteristics of Slums in urban areas. Discuss, what are the policies and programs needed for slum clearance and improvement**

**5 A Illustrate the Urban municipal administration structure, function, and composition.**

**OR**

**B Explain in brief the history and achievement of Urban development policies and programs.**

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**310/FEB24/III-C(B)(O)(N)**

**FACULTY OF SOCIAL SCIENCES**

**M. S. W III SEMESTER (CBCS OLD & NEW) EXAMINATIONS JAN/FEB 2024**

**PSYCHIATRIC SOCIAL WORK – I (OLD & NEW)**

**PAPER – IV (B)**

**TIME: 3 HRS]**

**[MAX.MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Meaning of Psychiatric Social Work.
- b Importance of the fieldwork in the psychiatric setting.
- c How do you assess psychological disorders as a psychiatric social worker?
- d What do you mean by somatization disorder?

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Discuss the various intervention models in clinical social work practices and their effectiveness in the Indian context.**

**OR**

**B Illustrate the concept of psychiatric social work. Explain the historical development of psychiatric social work in India and its objectives.**

**3 A Briefly write a note on the process of clinical assessment and Diagnosis of psychological disorders.**

**OR**

**B Discuss the various Neuro-psychological testing and its diagnosis process.**

**4 A Discuss an overview of causes and social work interventions for obsessive compulsive disorder (OCD) in the Indian context.**

**OR**

**B Write a brief note on panic disorder and discuss the clinical description of panic disorder.**

**5 A What is a Hypochondriasis? Evaluate the causes and consequences of hypochondriasis.**

**OR**

**B Discuss the Schizophrenia disorder symptoms and explain the clinical description of panic disorder.**

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**FACULTY OF ARTS**  
**M.A. (ENGLISH) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**POSTCOLONIAL LITERATURES**  
**PAPER – IV (A)**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A (4 X 5 = 20 Marks)**

**1. Answer ALL the following questions**

- a) Ethnicity
- b) Two main themes of *Bullocky*.
- c) Character sketch of Ikemefuna
- d) Theme of *alternatives*

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL the following questions**

2. (a) Discuss the concept of mimicry and hybridity.

**(OR)**

(b) What are the major themes covered under postcolonial literature?

3. (a) How does Judith Wright portray her frustration about economic rationalism through her poem *Eve to Her Daughters*?

**(OR)**

(b) Discuss main elements from Phyllis Webb's "Marvel's Garden"

4. (a) Sketch the character of Marian in Margaret Atwood's *The Edible Woman*. Why does the writer describe the work as Feminist?

**(OR)**

(b) Discuss V.S.Naipaul's *The Mimic Men* as a postcolonial text.

5. (a) Critically examine Wole Soyinka's *Kongi's Harvest* as a post colonial text.

**(OR)**

(b) Discuss the major themes in Derek Walcott's *Dream on Monkey Mountain*.

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**FACULTY OF ARTS**

**M.A. (ENGLISH) III SEMESTER (CBCS) EXAMINATIONS JAN 2024**  
**MODERN EUROPEAN CLASSICS IN TRANSLATION**  
**PAPER – IV (B)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the following questions**

- A Avant-garde
- B Epic Theatre
- C What are the ideas of Baudelaire?
- D A brief note on Dostoevsky

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL the following questions**

**2 A Explain Realism-Naturalism and Holocaust Experience**

**OR**

- B Discuss Baudelaire's ideas that he projected in the poetry selected for your study.

**3 A Critically comment on Tenebrae.**

**OR**

- B Summarise Lorca's Crucifixion

**4 A What is central argument of Chekhov's The Cherry Orchard?**

**OR**

- B What is the theme of Mother Courage?

**5 A How do you understand Camus' The Stranger? Comment**

**OR**

- B Death in Venice contains both an affirmation and resistance of the world of antibourgeois values. Discuss

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## Faculty of Arts

## M.A. (Urdu) III Semester Examination (CBCS) JAN/FEB 2024

## Elective Paper - IV (B) اختیاری (ب)

## چوتھا پرچہ طنز و مزاح

(Time : 3 Hours)

Answer All the questions

Max Marks : 80

## Section - A

نوت: تمام سوالات حل کیے جائیں۔ ہر سوال کے پانچ نشانات مختص ہیں۔ ہر جواب پندرہ سطروں میں تحریر کیا جائے۔

1. طنز و مزاح کی تعریف اور ان کے باہمی افڑا قات کی وضاحت کیجیے۔
2. اقبال کی ظریفانہ شاعری پر مختصر نوٹ تحریر کیجیے۔
3. داستان ”باغ و بہار“ میں مزاجیہ عناصر کی نشاندہی کیجیے۔
4. ”سودا یشی ریل“ میں شوکت تھانوی کے طنز کا بنیادی حوالہ کیا ہے؟ واضح کیجیے۔

## Section - B

نوت: تمام سوالات حل کیے جائیں۔ ہر سوال کے پندرہ نشانات مختص ہیں۔ ہر سوال کا جواب چار صفحات سے زیادہ نہ ہو۔

- (A).5 طنز و مزاح کی مختلف اقسام کا تعارف کرائیے۔ یا
- (B) طنز و مزاح کے محکات اور سماجی معنویت پر روشنی ڈالیے۔
- (A).6 اکبر ال آبادی کی ظریفانہ شاعری کے اسلوب اور موضوعات کا جائزہ لے جیئے۔ یا
- (B) اردو میں مزاجیہ شاعری کے ارتقا پر جامع نوٹ تحریر کیجیے۔
- (A).7 اردو نثر میں طنز و مزاح کے اولین نمونوں کی شناخت کیجیے۔ یا
- (B) طنز و مزاح کے فروغ میں اودھ پنج کی خدمات پر روشنی ڈالیے۔
- (A).8 احمد شاہ بخاری پٹرس کی مزاح نگاری کے امتیازات واضح کیجیے۔ یا
- (B) سلیمان خطیب کی مزاجیہ شاعری میں سماجی مسائل کی ترجمانی پر اظہار خیال کیجیے۔

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**FACULTY OF ARTS**  
**M.A (TELUGU) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**

**భారతీయ అలంకార శాస్త్రము - I**

**పేపర్ - IV**

సమయం: 3 గంటలు]

[గరిష్ట మార్కులు : 80

**సెక్షన్ - ఎ (4 X 5 = 20 మార్కులు)**

1 ఈ క్రింది వానిపై లఘు వ్యాఖ్య వ్రాయండి  
 ఎ కావ్య నిర్వచనాలు  
 బి భరతుని రస సిద్ధాంతం  
 సి రీతులు  
 ది శ్లేష అలంకారం

**సెక్షన్ - బి (4 X 15 = 60 మార్కులు)**

అన్ని ప్రశ్నలకు సమాధానాలు వ్రాయండి

2 ఎ కావ్యాన్ని నిర్వచించి దాని భేదాలను తెల్పండి

**లేదా**

బి కావ్య ప్రయోజనాలను సొదాహరణంగా వివరించండి

3 ఎ రస నిష్ట సిద్ధాంతాలను వివరించండి

**లేదా**

బి రససంఖ్యలో శాంతం రసం అవుతుందా వివరించండి

4 ఎ వృత్తిని నిర్వచించి లక్ష్ణా వృత్తిని సోదాహరణంగా చర్చించండి

**లేదా**

బి దశ రూపకాలను వివరించండి

5 ఎ ధ్వని సిద్ధాంతాన్ని పరిచయం చేయండి

**లేదా**

బి తెలుగులో వచ్చిన అలంకార శాస్త్ర రచనలను పరిచయం చేయండి

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**FACULTY OF SOCIAL SCIENCES**

**M. A (SOCIOLOGY) III SEM (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**

**SOCIOLOGY OF MARGINALIZED COMMUNITIES**

**PAPER – IV (A) (NEW)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 =20 Marks)**

**1 Answer ALL the questions**

- a What are the major marginalized groups in India and discuss them in brief?
- b What are the problems faced by Tribes?
- c Discuss the problem of class based discrimination?
- d Define social exclusion and discuss the forms of social exclusion

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 A Explore the forms of Discrimination in detail?

**OR**

B Which are the different forms of Marginalization?

3 A Explain the tribal movements in India

**OR**

B Define denotified tribes. What are socio-economic challenges faced by these communities.

4 A Critically analyse the role Christian Missionaries in the upliftment of Dalits?

**OR**

B Discuss Periyar's contribution as a social and political reformer?

5 A Describe the various Safeguards provided in the Constitution for Scheduled Castes and Scheduled Tribes?

**OR**

B Write in brief about the constitutional reservations provided to Other Backward Classes?

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**FACULTY OF SOCIAL SCIENCES**

**M. A (SOCIOLOGY) III SEM (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**

**SOCIOLOGY OF COMMUNICATIONS AND CHANGE**

**PAPER – IV (B) (NEW)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 =20 Marks)**

**1 Answer ALL the questions**

- a Define communication and write its characteristics?
- b Define verbal communication and types of verbal communication?
- c Identify some of the major forms of entertainment in the present society?
- d Define development communication and explain how planning can help the development communication?

**SECTION - B (4 X 15 =60 Marks)**

**Answer ALL questions**

**2 A Discuss various forms of communication in detail?**

**OR**

**B Discuss the nature and scope of mass communication?**

**3 A Explain about different theories in mass communication?**

**OR**

**B Write about Indian communication theory?**

**4 A Write about the positive and negative impact of social media in the present context?**

**OR**

**B Discuss in detail about the Folk and Traditional Media?**

**5 A What do you understand by journalistic ethics? Briefly enumerate the Code of Ethics formulated by the Press Council of India?**

**OR**

**B Mass media as a social change explain in detail?**

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**FACULTY OF SOCIAL SCIENCES**

**M. A (SOCIOLOGY) III SEM (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**

**GENDER SOCIETY (OLD)**

**PAPER – IV (A)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 =20 Marks)**

**1 Answer ALL the questions**

- a Socialization
- b Feminism
- c Gender inequality
- d Women Development

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A What does it mean to say that gender is a social construction?**

**OR**

- B How does the concept of gender as a social construct differ from biological

**3 A Define patriarchy and matriarchy, providing examples of societies where each is observed.**

**OR**

- B How does the division of labor contribute to gender inequality in the workforce

**4 A What is the significance of the middle class in Indian society regarding development initiatives?**

**OR**

- B Describe one program in India specifically designed to enhance women's participation in decision-making processes.

**5 A Name one significant women's movement in pre-independence India and describe its objectives.**

**OR**

- B Discuss the role of social media in shaping and mobilizing contemporary women's movements.

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FACULTY OF SOCIAL SCIENCES  
M.A (ECONOMICS) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024  
ECONOMETRICS – I  
PAPER – IV (A)

TIME: 3 HRS]

[MAX. MARKS: 80

**SECTION - A (4 X 5 = 20 Marks)**

1 **Answer ALL the questions**

- a Define error term
- b Describe coefficient of determination
- c Write note on Durbin Watson test
- d Explain dummy variable

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 A Explain the scope and importance of econometrics

**OR**

B Describe the principle of least square with suitable example

3 A Define the Multiple regression model and explain the with suitable example

**OR**

B Explain Relation between simple and multiple regression coefficients

4 A Define auto-correlationand describe Remedial measures of auto-correlation

**OR**

B Explain the assumptions of classical liner regression model.

5 A What is hetroscedasticity? and explain the Consequences of hetroscedasticity

**OR**

B Describe the logit model with suitable example

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**313/FEB24/III-D(B)**

**FACULTY OF SOCIAL SCIENCES**  
**M. A (ECONOMICS) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**INDUSTRIAL ECONOMICS**  
**PAPER – IV (B)**

**TIME: 3 HRS]**

**[MAX.MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Write a short note on Industrialization.
- b Briefly examine the product differentiation.
- c Define Privatization.
- d Write a note on Industrial Finance

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Explain the role of Industry in Economic Development.**

**OR**

**B Discuss the Sargent Florence theory of Industrial Location.**

**3 A Define the concept of Firm. Explain the organization of a firm.**

**OR**

**B Explain the Cost-Benefit analysis.**

**4 A Write about the Industrial Pattern under Five Year Plan.**

**OR**

**B Explain the Rural Industrialization and its need in India.**

**5 A What is the role of Industrial Finance for promoting Industrial Development.**

**OR**

**B Illustrate the State level Financial institutions.**

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FACULTY OF SCIENCE  
MSC (BOTANY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024  
ENVIRONMENTAL POLLUTION  
PAPER – IV(A)

TIME: 3 HRS]

[MAX. MARKS: 80]

**SECTION - A (4 X 5 = 20 Marks)**

1     **Write a short note on the following**

- A Acid Rains
- B Hardness of water
- C Soil pollution
- D Biomedical Waste

**SECTION - B (4 X 15 = 60 Marks)**  
**Answer ALL Questions**

2    A    Write a detailed account on air pollution

**OR**

- B    Explain the sources, effects and control of noise pollution

3    A    Write about the various primary treatments of industrial water

**OR**

- B    Explain the various steps involved in activated sludge processes and trickling filters

4    A    Describe *In - situ* and *Ex - situ* bioremediation

**OR**

- B    What are the different methods involved in bioremediation of toxic metals

5    A    Write about the types, sources and classification of solid wastes

**OR**

- B    What are the important aspects of Environmental Protection Act of 1986

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**FACULTY OF SCIENCE  
MSC (BOTANY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024  
PLANT PATHOLOGY  
PAPER - IV (B)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Write a short note on the following**

- A Dissemination of pathogen
- B Dormancy of spore
- C Diseases forecasting
- D Cultural practices of disease control

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL Questions**

**2 A Explain the detailed account on parasitism and disease development.**

**OR**

- B Explain the concept of host pathogen interaction and chemical weapons of pathogens.

**3 A Give a detailed account on changes in host physiological functions due to pathogenesis.**

**OR**

- B Explain the nutrition and physiology of plant pathogenic fungi.

**4 A Describe the different types of structural and biochemical host defense mechanisms.**

**OR**

- B Explain the measurement of plant disease epidemics and pathogen factors.

**5 A Explain the principles involved in quarantine, culture practices and physical methods of plant disease control.**

**OR**

- B Describe the chemical nature and mode application of fungicides.

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**FACULTY OF SCIENCE**  
**MSc (COMP SCI) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**DESIGN AND ANALYSIS OF ALGORITHMS**  
**PAPER – IV(A)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a What is an Algorithm? Explain the fundamentals of Algorithmic Problem Solving.
- b Write a short note on Hashing.
- c Explain the concept of Dynamic Programming.
- d Write a short note on Decision Trees.

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Explain the implementation of Selection Sort with an example.**

**OR**

**B Write a detailed note on Brute-Force String Matching.**

**3 A Explain the implementation of Binary Search with an example.**

**OR**

**B Explain in detail about Strassen's Matrix Multiplication.**

**4 A Explain the implementation of Prim's Algorithm using greedy Technique.**

**OR**

**B Write a detailed note on Maximum-Flow Problem.**

**5 A Explain how to solve n-Queens problem using Backtracking technique.**

**OR**

**B Explain how to solve Travelling Salesman Problem using Branch and Bound Technique.**

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**FACULTY OF SCIENCE**  
**MSc (FOOD SCI & TECH) III SEM (CBCS) EXAMINATIONS JAN/FEB 2024**  
**BAKING SCIENCE & TECHNOLOGY**  
**PAPER – IV(A)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a What are wheat flour proteins explain.
- b Write about Falling number and its applications.
- c Explain staling of bread.
- d Write the classification of cakes.

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Briefly discuss the machinery used in bakery industry.**

**OR**

**B Discuss the wheat flour proteins and importance of gluten in bakery products.**

**3 A Discuss in detail the methods of dough mixing.**

**OR**

**B Describe in detail the additives used in bakery industry.**

**4 A Describe the ingredients used and their role in manufacture of bread.**

**OR**

**B Discuss the different methods of dough mixing in the manufacture of biscuits along with packaging materials used.**

**5 A Discuss in detail the formula balance in cakes.**

**OR**

**B Describe frozen dough products.**

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**FACULTY OF SCIENCE**  
**M Sc (ZOOLOGY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**ENDOCRINOLOGY AND REPRODUCTIVE BIOLOGY**  
**PAPER – IV (A)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Pituitary gland
- b Parturition and Lactation
- c Teratogenesis
- d Use of Monoclonal antibodies.

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Explain about Biosynthesis and mechanism of hormonal action.**

**OR**

**B Describe the hormonal regulations of Carbohydrates and endocrine disrupts.**

**3 A Give an account on Spermatogenesis phases and its hormonal regulations.**

**OR**

**B Write about sexual cycles and Fertilization process in detail.**

**4 A Illustrate various reproductive techniques and their importance.**

**OR**

**B Explain about sexual transmitted diseases and their prevention.**

**5 A Describe the care and breeding techniques of laboratory animals.**

**OR**

**B Discuss about Radio and Enzyme immunoassay techniques.**

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FACULTY OF SCIENCE  
MSC (MICROBIOLOGY) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024  
ADVANCES IN BIOTECHNOLOGY  
PAPER – IV

TIME: 3 HRS]

[MAX. MARKS: 80

**SECTION - A (4 X 5 = 20 Marks)**

1 Write a short note on the following

- A Carbohydrate manipulation in transgenics
- B Bioethics
- C Nanotechnology
- D Sex determination

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL Questions**

2 A Discuss on the biosafety concerns of transgenic plants. Add a note on plants as bioreactors

**OR**

- B Describe the role of transgenics and abiotic stress tolerance

3 A Write about cloning techniques. Add a note on its applications

**OR**

- B Explain retroviral, DNA microinjection and embryonic stem cell method

4 A Describe the physical and chemical methods to synthesize nanoparticles

**OR**

- B Write a detailed account on the properties of nano materials

5 A Explain vectors and gene targeting in detail

**OR**

- B Describe tissue and biomolecular engineering techniques

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**FACULTY OF SCIENCE**  
**MSc (NUTRITION & DIETETICS) III SEM (CBCS) EXAMS JAN/FEB 2024**  
**FOOD HYGIENE AND SANITATION**  
**PAPER - IV**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

1 **Answer ALL the questions**

- a Explain the general guidelines for cleaning equipment.
- b Explain pesticide and insecticide with examples.
- c Explain the sources water.
- d What is solid waste pollution?

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 A Describe the common faults in food preparation.

**OR**

B Discuss in detail about layout of premises and ventilation of premises.

3 A Describe the control measures for household pests.

**OR**

B Give a brief account in personal appearance and sanitary practice.

4 A Discuss in detail the process of purification of water(largescale and small scale).

**OR**

B Describe in detail the disposal of liquid waste and gaseous waste.

5 A Describe in detail prevention of air pollution and soil pollution.

**OR**

B Describe in detail prevention of noise pollution and water pollution.

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**FACULTY OF SCIENCE**

**M. Sc (CHEMISTRY) III SEM (CBCS R-22 NEW) EXAMS JAN/FEB 2024**

**GENERAL ORGANIC CHEMISTRY**

**(ORGANIC CHEMISTRY SPECIAL)**

**PAPER – IV (A) (NEW)**

**TIME: 3 HRS]**

**[MAX. MARKS:80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Write the synthesis of imidazole and discuss the hydrogen bonding in imidazole
- b Write a note on Von Ritcher rearrangement reaction
- c What is umpolung? Explain it in 1,3-dithiane formation
- d Discuss the synthesis of Testosterone.

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 a Write the synthesis of benzimidazole and explain its reactivity and importance

**OR**

- b Write the synthesis of oxazole and explain its reactivity and importance

3 a Write a note on Chapman rearrangement and Knoevenagel Condensation.

**OR**

- b Write a note on mechanistic aspects of Darzen's condensation and Robinson's Annulation

4 a Write the protection of amines using Boc, Fmoc and CBZ as carbamate and their deprotection methods

**OR**

- b Write the protection of alcohols as various silyl ethers and compare their stability and deprotection methods

5 a Write the synthesis of Progesterone

**OR**

- b Give the structure determination of Oestrone.

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**FACULTY OF SCIENCE**

**M. Sc (CHEMISTRY) III SEM (CBCS OLD) EXAMINATIONS JAN/FEB 2024**  
**GENERAL ORGANIC CHEMISTRY**  
**(ORGANIC CHEMISTRY SPECIAL)**  
**PAPER – IV (A) (OLD)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Write the synthesis of imidazole and discuss the hydrogen bonding in imidazole
- b Describe Microwave assisted Diels-Alder reactions.
- c What is umpolung? Explain it in 1,3-dithiane formation
- d Discuss the synthesis of Testosterone.

**SECTION – B (4 X 15 = 60 Marks)**  
**Answer ALL questions**

2 a Write the synthesis of benzimidazole and explain its reactivity and importance

**OR**

- b Write the synthesis of oxazole and explain its reactivity and importance

3 a Describe the Various microwave assisted reactions in water.

**OR**

- b Discuss the principle involved in Solvent free reactions. Explain its utility and the controlling solvent free reactions.

4 a Write the protection of amines using Boc, Fmoc and CBZ as carbamate and their deprotection methods

**OR**

- b Write the protection of alcohols as various silyl ethers and compare their stability and deprotection methods

5 a Write the synthesis of Progesterone

**OR**

- b Give the structure determination of Oestrone.

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**FACULTY OF SCIENCE**

**M. Sc. (CHEMISTRY) III SEM (CBCS NEW & OLD) EXAMS JAN/FEB 2024**  
**POLYMER CHEMISTRY**  
**(PHYSICAL CHEMISTRY SPECIAL)**  
**PAPER – IV (A) (NEW & OLD)**

**Time: 3 Hrs]**

**[Max. Marks: 80**

**SECTION - A (4 × 5 = 20 Marks)**

**1. Answer all the Questions**

- a. What is Trommsdorff effect?
- b. Write a note on thermodynamics of polymer dissolution.
- c. Discuss wet methods of fibre formation.
- d. What are liquid crystal polymers? Explain.

**SECTION – B (4 × 15 = 60 Marks)**

**Answer ALL Questions**

2. a. Discuss the kinetics and mechanism of anionic polymerization.

**OR**

- b. Explain polymerization in homogeneous and heterogeneous systems.

3. a. Discuss the Flory-Huggins theory of polymer solutions.

**OR**

- b. Explain the various methods of measurement of molecular weights.

4. a. What are the different types of moulding processes? Explain.

**OR**

- b. Write a note on synthetic fibres.

5. a. What are different types of conducting polymers? Explain their uses.

**OR**

- b. Discuss the methods for liquid separation.

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## FACULTY OF SCIENCE

**M.Sc. (CHEMISTRY) III SEM (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**  
**PHOTOCHEMISTRY, ANALYTICAL METHODS – III**  
**(INORGANIC CHEMISTRY SPECIAL)**  
**PAPER – IV (A)**

Time: 3 Hours]

[Max. Marks: 80]

**SECTION - A (4 X 5 = 20 Marks)****1. Answer ALL the following**

- a) Photochemistry of  $Mn_2(CO)_{10}$
- b) Applications of Transmission Electron Microscopy.
- c) Principle involved in plasma spectroscopy
- d) Koopmann's theorem.

**SECTION – B (4 X 15 = 60 Marks)**  
**Answer ALL Questions**

2. a) Explain the energy and structure of electronically excited states of coordination compounds.  
 b) Write about the photochemistry of Co(III) metal complexes.

**OR**

- c) Write a note on Metal sensitizers and Quenchers.
- d) Discuss photochemical hydrogen production by oxidative quenching of  $[Ru(bipy)_3]^{+3}$  by methyl viologen.

3. a) Describe the instrumentation and applications of X-PES technique.  
 b) Write about principle and instrumentation of SEM (Scanning Electron Microscopy).

**OR**

- c) Write about Auger electron spectroscopy.
- d) Write about secondary ion mass spectrometry.

4. a) Discuss the principle and instrumentation of Atomic Emission Spectroscopy.  
 b) Discuss the applications of Atomic Absorption spectroscopy in qualitative and quantitative analysis.

**OR**

- c) Explain the principle and applications of ICP-MS technique.
- d) Explain the chemical and spectral evolution methods in Atomic Absorption spectroscopy.

5. a) Explain the photoelectron spectra of  $H_2O$  and  $NH_3$  molecules.  
 b) Write about the origin and usefulness of meta stable ions.

**OR**

- c) Discuss the analysis of metabolite of drug Imipramine by GC / Mass spectrometry.
- d) Explain the working of Ion cyclotron resonance mass spectrometer.

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FACULTY OF SCIENCE

M. Sc (ENGG. PHYSICS & INSTR.) III SEM (CBCS EXAMINATIONS JAN/FEB 2024

DIGITAL LOGIC CIRCUITS

PAPER – IV (A)

TIME: 3 HRS]

[MAX. MARKS: 80

**SECTION - A (4 X 5 = 20 Marks)**

1 **Answer ALL the questions**

- a What is Don't Care Condition? Explain with example.
- b Write in Brief about "NAND gate latch".
- c Write a short note on TTL series characteristics.
- d Describe in brief about ROM and types of ROM.

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 A Explain the simplification of a circuit using K-map method. And explain its looping of Pairs, Quads and Octets.

**OR**

B Draw the circuit diagram of Full Adder and explain its working and Discuss about the IC parallel Adder.

3 A Discuss the construction and working of J-K and D Flip Flops.

**OR**

B Explain the Counter with MOD numbers  $< 2^n$  and also discuss the shift register counters.

4 A Explain the CMOS logic and its characteristics and Discuss the bilateral switch.

**OR**

B Explain in detail about BCD to 7 Segment display decoder [10 M]

C Describe about Liquid Crystal Display [5 M]

5 A Discuss in detail about architectures of PLD and PLA s.

**OR**

B Explain the DRAM structure and its Operation. Discuss about the DRAM refreshing.

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**FACULTY OF SCIENCE**

**M.Sc. (PHYSICS) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**

**CRYSTAL DEFECTS AND OPTICAL PHENOMENA IN SOLIDS**

**(SOLID STATE PHYSICS SPECIAL)**

**PAPER – IV (A)**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A (4 × 5 = 20 Marks)**

**1. Answer ALL the following**

- a) Explain about Burger vector in Edge and screw dislocations.
- b) Write a short note on Polarons.
- c) Explain configuration coordinate diagram of luminescence.
- d) Explain the ideal quantum efficiency and the responsivity of photo detectors.

**SECTION – B (4 × 15 = 60 Marks)**

**Answer ALL Questions**

2. a) What is Frenkel imperfection? And derive the equation of the concentration of Frankel imperfection in mono atomic solid.

**(OR)**

- b) Describe the colour centres in detail. And discuss the generation of colour centres.

3. a) What is polaritons? Derive the expression for LST-relation.

**(OR)**

- b) Explain about the Excitons and discuss the Raman effect in crystals.

4. a) What are the radiative and non-radiative luminescence? and discuss the luminescence of decay mechanisms.

**(OR)**

- b) What are the different kinds of luminescence? And discuss the Photo luminescence, Electro luminescence and its applications.

5. a) Explain in detail about the photoconductors with RF equivalent circuit of photoconductor.

**(OR)**

- b) Explain about photovoltaic effect and discuss p-n junction solar cell and its efficiency

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**FACULTY OF SCIENCE**  
**M. Sc. (PHYSICS) III SEMESTER (CBCS) EXAMINATION JAN/FEB 2024**  
**DIGITAL AND MICROWAVE COMMUNICATION**  
**(ELECTRONICS SPECIAL)**  
**PAPER – IV (B)**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A ( $4 \times 5 = 20$  Marks)**

**1. Answer the following:**

- a) State and Prove Sampling theorem.
- b) Obtain the expression for voltage reflection coefficient.
- c) Write a Brief Note on Smith Chart.
- d) Distinguish between the rectangular and circular waveguides.

**SECTION – B ( $4 \times 15 = 60$  Marks)**

**Answer ALL Questions**

2. a) Explain Pulse Code Modulation and describe differential PCM.

**OR**

b) Describe in detail about the modulation and detection technique of differential phase shift keying (DPSK).

3. a) What is characteristic Impedance? Obtain General transmission line equation.

**OR**

b) Derive an equation for input impedance of lossless line and short circuit transmission line.

4. a) What are strip lines? Explain any two types of strip lines.

**OR**

b) Discuss the impedance transformation and admittance transformation in strip lines.

5. a) Obtain the solution of wave equation in cylindrical coordinates for circular wave guides.

**OR**

b) What is tunneling effect? Describe the construction and working of tunnel diode with necessary diagrams.

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**FACULTY OF SCIENCE**  
**M.Sc. (STATISTICS) III SEMESTER (CBCS) EXAMINATIONS JAN 2024**  
**ADVANCED DESIGN OF EXPERIMENTS**  
**PAPER – IV (B)**

**Time: 3 Hours**

**[Max. Marks: 80]**

**SECTION – A (4 X 5 = 20 Marks)**

**1. Answer ALL the questions.**

- Define C- matrix of a general incomplete block designs
- Identify the design based on its association matrices, contains the 9 treatments with 3 blocks: (1 2 3); (4 5 6); (7 8 9).
- What is an evolutionary operation? Write its on a second order response surface model.
- Define Scheffee design. Illustrate with an example.

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL the questions**

- Defining the Galois field, construct the Balanced Incomplete Block design through the complete set of mutual orthogonal Latin squares for the series  $v=s^2$ ,  $b=s^2+s$ ,  $r=s+1$ ,  $k=s$  and  $\lambda=1$ .

**OR**

- Obtain the variance of adjusted treatment total in Youden square design. Also obtain positional effect of treatments.

- Derive the adjusted sum of squares for treatments and unadjusted block sum of squares of a simple lattice design.

**OR**

- Derive the adjusted sum of squares of treatments, unadjusted block sum of squares for a balanced lattice design.

- Show that augmenting a  $2^k$  design with  $n_0$  central point's does not affect the estimates of the  $\beta_i$  ( $i = 1, 2, \dots, k$ ) but the estimate of the intercept  $\beta_0$  is the average of all  $2^k + n_0$  observations.

**OR**

- Write the canonical analysis of a second order response surface design model.

- Consider the mixture design with three ingredients  $(x_1, x_2, x_3)$ : (1, 0, 0); (0, 1, 0); (0, 0, 1); ((0.5, 0.5, 0); (0.5, 0, 0.5); (0, 0.5, 0.5); (1/3, 1/3, 1/3)). Plot the points in triangular graph paper and outline its analysis of the model.

**OR**

- State the statistical model of a Row-Column design and how it differs Partially Balanced Incomplete Block designs. Outline its analysis

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## FACULTY OF SCIENCE

### M.Sc. (MATHEMATICS) III SEM (CBCS R-22NEW) EXAMS JAN/FEB 2024 PARTIAL DIFFERENTIAL EQUATIONS AND BOUNDARY VALUE PROBLEMS PAPER – IV (A)

TIME: 3 HRS]

[MAX. MARKS: 80

#### SECTION - A (4 X 5 = 20 Marks)

1 Answer ALL the questions.

- a Form the partial differential equation by eliminating the arbitrary constants  $a, b$  from  $z = (x+a)^{1/2} + (y-a)^{1/2} + b$ .
- b Compute the solution of  $(2D^2 - D'^2 + D)u = 0$ .
- c Derive Laplace equation in cartesian coordinate system.
- d Use the separation of variables to compute the solution of diffusion equation.

#### SECTION-B (4 X 15 = 60 Marks) Answer ALL the questions.

2 A a) Obtain the general solution of the PDE:  $(x+2)p + 2yq = 2z$ . Hence, find the integral surface of this equation passing through the line  $x(s) = -1, y(s) = s, z(s) = \sqrt{s}$ .

b) Prove or disprove that the equations  $xp - yq = x, x^2p + q = xz$  are compatible. [10+5=15 M]

OR

B a) Prove that the necessary and sufficient condition that the Pfaffian differential equation  $\bar{X} \cdot d\bar{r} = P(x, y, z)dx + Q(x, y, z)dy + R(x, y, z)dz = 0$  be integrable is that  $\bar{X} \cdot \text{curl } \bar{X} = 0$ .

b) Use Jacobi's method to solve  $(p^2 + q^2)y = qz$ . [7+8 = 15 Marks]

3 A a) Evaluate a real function  $u(x, y)$ , which reduces to zero when  $y = 0$  and satisfy the PDE:

$$(D^2 + D'^2)u = -\pi(x^2 + y^2).$$

b) Solve  $(D^2 + 2DD' + D'^2 - 2D - 2D')u = \sin(x+2y)$ . [9+6=15 Marks]

OR

B a) Show that a linear PDE of the type  $\sum_i \sum_j a_{ij} x^i y^j \frac{\partial^{i+j} u}{\partial x^i \partial y^j} = f(x, y)$  can be reduced to a one with constant coefficients by substituting  $\xi = \ln x, \eta = \ln y$ .

b) Reduce  $4u_{xx} + 5u_{xy} + u_{yy} + u_x + u_y = 2$  into canonical form. [8+7=15 Marks]

4 A Find the steady state temperature in a plate  $0 < x < a, 0 < y < b$  when the sides  $x=0, x=a, y=0$  are insulated while the edge  $y=b$  is kept at temperature  $\sin\left(\frac{n\pi x}{a}\right)$ .

OR

B Let the radii of inner and outer boundaries of a circular annulus be 10cm and 20cm respectively, the temperature along the boundaries be  $u(10, \theta) = 15\cos\theta$  and  $u(20, \theta) = 30\sin\theta$ . Determine the steady state temperature  $u(r, \theta)$  in the annulus by assuming that its lateral surfaces are insulated.

5 A An insulated rod of length  $l$  has its ends A and B maintained at  $0^\circ\text{C}$  and  $100^\circ\text{C}$  respectively until steady state condition prevails. If the end B is suddenly reduced to  $0^\circ\text{C}$  and kept so while that of A is maintained. Estimate the temperature at a distance  $x$  from A at time  $t$ .

OR

B Reduce the wave equation  $u_{tt} = c^2 u_{xx}, -\infty < x < \infty, t > 0$  into canonical form and hence calculate the D'Alembert's solution of this problem subject to  $u(x, 0) = f(x), u_t(x, 0) = g(x)$ .

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**FACULTY OF SCIENCE****M.Sc. (MATHEMATICS) III SEM (CBCS R-22 NEW) EXAMS JAN/FEB 2024**  
**THEORY OF ORDINARY DIFFERENTIAL EQUATIONS**  
**PAPER – IV (B)****TIME: 3 HRS]****[MAX. MARKS: 80****SECTION - A (4 X 5 = 20 Marks)****1 Answer ALL the questions.**

- Find all the solutions  $\phi$  of  $y'' + y = 0$  satisfying  $\phi(0) = 0, \phi(\pi) = 0$ .
- Consider the equation  $y'' + \frac{1}{x}y' - \frac{1}{x^2}y = 0$  for  $x > 0$ . Show that there is a solution of the form  $x^r$ , where  $r$  is a constant.
- Find all the solutions of  $x^2y''' + 2x^2y'' - xy' + y = 0$  for  $x > 0$ .
- Find all real-valued solutions of the following equations:  
(i)  $yy' = x$  (ii)  $y' = x^2y^2 - 4x^2$

**SECTION - B (4 X 15 = 60 Marks)****Answer ALL the questions.**

- A Show that every solution of the constant coefficient equation  $y'' + a_1y' + a_2y = 0$  is bounded on  $0 \leq x < \infty$  if and only if, the real parts of the roots of the characteristic polynomial are non-positive and the roots with zero real parts have multiplicity one.

**OR**

- B Let  $\phi_n$  be any function satisfying the boundary value problem  $y'' + n^2y = 0, y(0) = y(2\pi)$ , where  $n = 0, 1, 2, \dots$ . then show that  $\int_0^{2\pi} \phi_n(x)\phi_m(x)dx = 0$ , if  $n \neq m$

- A A differential equation and a function  $\phi_1$  are given in each of the following. Verify that the function  $\phi_1$  satisfies the equation, and find a second independent solution.  
(i)  $x^2y'' - xy' + y = 0, \phi_1(x) = x, (x > 0)$   
(ii)  $xy' - (x + 1)y + y = 0, \phi_1(x) = e^x$ .

**OR**

- B Find two linearly independent power series solutions (in powers of  $x$ ) of the following equations:  
(i)  $y'' + 3x^2y' - xy = 0$   
(ii)  $y'' - x^2y = 0$ .

- A (i) Show that -1 and 1 are regular singular points for the Legendre equation  
$$(1 - x^2)y'' - 2xy' + \alpha(\alpha + 1)y = 0.$$
  
(ii) Find the indicial polynomial, and its roots, corresponding to the point  $x = 1$ .

**OR**

- B Show that infinity is not a regular singular point for the Bessel equation:  
$$x^2y'' + xy' + (x^2 - \alpha^2)y = 0$$

- A (i) Show that all the successive approximations for the problem  $y' = y^2, y(0) = 1$  exist for all real  $x$ .  
(ii) Find a solution of the above initial value problem. On what interval does it exist?

**OR**

- B By computing appropriate Lipschitz constants, show that the following functions satisfy Lipschitz conditions on the set  $S$  indicated.  
(i)  $f(x, y) = x^3e^{-xy^2}$ ; on  $S: 0 \leq x \leq a, |y| < \infty, (a > 0)$ .  
(ii)  $f(x, y) = 4x^2 + y^2$ ; on  $S: |x| \leq 1, |y| \leq 1$ .

**★★★★**

**FACULTY OF COMMERCE**  
**M.COM (GEN) III SEMESTER (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**  
**FINANCIAL MARKETS AND INSTITUTIONS**  
**(FINANCE SPECIALISATION)**  
**PAPER – IV (A)**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION - A (5 X 4 = 20 Marks)**

**1. Answer ALL the following questions**

- a) Write about financial markets.
- b) What is Money Market?
- c) IPO and FPO
- d) What is Stock Exchange?
- e) SEBI.

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL questions**

**2. a) Explain the objectives and structure of financial system.**

**(OR)**

- b) Explain the role of financial system in economic development?

**3. a) Discuss the feature, functions and significance Money Market.**

**(OR)**

- b) Explain in brief the role and challenges of money market in India.

**4. a) Write about features and functions of Capital Market.**

**(OR)**

- b) Explain the role and importance of Primary Market in Economic Development.

**5. a) Explain the functions and players of Stock Exchange.**

**(OR)**

- b) What is Stock market? What are the recent developments in Stock market?

**6. a) What is Monetary Policy? Explain the features and concepts of monetary policy.**

**(OR)**

- b) Explain the functions and importance of Reserve Bank of India.

★★★★★

**FACULTY OF COMMERCE**  
**M.COM III SEMESTER (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**  
**ACCOUNTING STANDARDS**  
**(ACCOUNTING SPECIALISATION)**  
**PAPER – IV (B)**

**Time: 3 Hours]**

**[Max . Marks: 80**

**SECTION - A (5 X 4 = 20 Marks)**

- 1. Answer ALL the following questions**
  - a) Define Accounting.
  - b) Write a short note on AS-3.
  - c) Define Borrowing Costs
  - d) What is Uniform Global Financial Reporting?
  - e) What is Stamp Report?

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL the questions**

- 2.** a) Critically examine Accounting as information System.  
**(OR)**  
b) Explain the concept and role of Accounting Theory.
- 3.** a) Briefly explain Accounting Standards Board in India.  
**(OR)**  
b) Write about the concept of AS-1, AS-6 and AS-10
- 4.** a) Discuss following Indian accounting standards  
AS-14  
AS-17  
AS-20  
**(OR)**  
b) Describe the concepts Financial Instruments Recognition and Measurement.
- 5.** a) Explain the differences between IAS, Indian GAAP and US GAAP.  
**(OR)**  
b) What IFRS and explain benefits of Convergence with IFRS?
- 6.** a) What is Financial reporting? Briefly explain Various Types of financial Reporting.  
**(OR)**  
b) Discuss the Recent Trends in Corporate Reporting in India.

★★★★★

**FACULTY OF COMMERCE**  
**M.Com. III SEMESTER (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**  
**BANK MANAGEMENT**  
**(BANKING & INSURANCE SPECIAL)**  
**PAPER – IV (C)**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION - A (5 X 4 = 20 Marks)**

**1. Answer ALL the questions**

- a) Financial Institution
- b) Chain Banking
- c) What is management of liabilities?
- d) What is Motivation?
- e) Employee Selection

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL the questions**

**2. a) What is Bank Management? Explain the nature of banking business.**

**(OR)**

**b) What are banking sector reforms in India? Explain in detail.**

**3. a) What is Unit Banking? Explain Merits and Demerits of Unit Banking.**

**(OR)**

**b) What is Group Banking? Difference between group banking and chain banking**

**4. a) Explain the Process of Financial Management in Commercial Banks.**

**(OR)**

**b) What measures do banks take to increase their profitability? Give suitable examples?**

**5. a) What is Bank Management? Explain the process of Bank management.**

**(OR)**

**b) Explain the process of formulating loan recovery plans of commercial banks?**

**6. a) Discuss the recent developments and current issues in Indian commercial banks..**

**(OR)**

**b) What are the various methods of performance appraisal of employees of commercial banks?**

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**FACULTY OF COMMERCE**  
**M.COM (Comp. Appl.) III SEM (CBCS NEW & OLD) EXAMINATIONS JAN/FEB 2024**  
**SOFTWARE TESTING TOOLS (NEW & OLD)**  
**PAPER - IV**

**TIME: 3 HRS]**

**[MAX. MARKS: 60**

**SECTION – A (5 X 2 = 10 Marks)**

**1) Answer ALL the following questions**

- a) Software Project
- b) Performance Testing
- c) Test script language
- d) Validation Testing
- e) Testing client

**SECTION - B (5 X 10 = 50 Marks)**

**Answer ALL questions**

2. a) Explain the software engineering evaluation

**OR**

b) What is Software Design? Explain the internal and external Software Design.

3. a) Describe the testing process and limitations of Testing

**OR**

b) Explain different types of principles of testing.

4. a) Describe the selecting and installing Software Testing Tools.

**OR**

b) Write a note on Data driven testing, Rapid Test Script wizard.

5 a) Explain the Overview of Software Testing Process.

**OR**

b) Explain in detail about the Verification and Validation Testing.

6. a) Describe in detail about the seven step process of testing -II

**OR**

b) Discuss about the Acceptance and Operational Testing.

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**FACULTY OF COMMERCE**  
**M.COM (FA) III SEMESTER (CBCS R-22 NEW) EXAMINATIONS JAN/FEB 2024**  
**CORPORATE TAX MANAGEMENT**  
**PAPER - IV**

**Time: 3 Hrs]**

**[Max. Marks: 80**

**SECTION – A (5 X 4 = 20 Marks)**

**1. Answer ALL questions**

- a. Residential Status of a Company
- b. Dividend Tax
- c. Tax Planning
- d. Meaning of Amalgamation Under IT Act
- e. Special Economic Zone

**SECTION – B (5 X 12 = 60 Marks)**

**Answer ALL the questions**

2. a) What is Corporate Tax? Explain significance of Corporate tax in India.

**OR**

b) What are the various exempted and Tax free incomes with special reference to corporate Assessee.

3. a) Explain detailed procedure regarding Set-Off and Carry forward of losses.

**OR**

b) A domestic company submits the following particulars of its income for the previous year ending on 31/march/2023: Rs.

Profits of business after deduction of donations	
to approved charitable institution	4,00,000
Donation to charitable institution by cheque	50,000
Interest on Government securities	20,000
Dividend from domestic company (Gross)	60,000
Long Term Capital Gain	1,00,000
Book Profits u/s 115JB	10,00,000

During the financial year 2022-23 the company deposited Rs 50,000 in IDBI. The company distributed a dividend of Rs 1,00,000 on 06/09/2022.

Compute the taxable income of the company and tax payable by it for AY 2023-24.

4. a) Explain the terms “Tax Evasion and Tax avoidance”. Distinguish between “Tax evasion” and “Tax avoidance”

**OR**

**(Contd.....)**

b) Satavahana Ltd., wants to raise capital of Rs. 80,00,000 for a project where earning before tax shall be 35% of the capital employed. The company can raise funds @14 % p. a. Suggest which of the following 3 alternatives should it opt for:

- A) Rs. 80,00,000 to be raised by Equity capital
- B) Rs. 64,00,000 by equity capital and Rs.16,00,000 by Loans.
- C) Rs. 16,00,000 by Equity capital and Rs.64,00,000 by Loans.

Assume the company shall distribute the entire amount of profit as dividend and tax rate is 27.82% includes Health and Education cess.

5. a) What are the tax concessions/incentives in case of demerger available to  
(i) demerged company (ii) Shareholders of demerged company?.

**OR**

b) XYZ Ltd. wants to acquire a second hand automatic machine costing Rs.25,00,000 for its manufacturing division and is considering the following two options:-

**Option: I**, To buy the machine by taking a loan of Rs.25 lakhs repayable in 5 instalments of Rs.5,00,000 each together with interest @ 16% per annum.

**Option: II**, To take it on lease for 5 years at an annual lease rent of Rs.6,00,000 payable at each year end.

**Other Information:**

- i. Tax rate applicable to company 30%
- ii. After tax cost of capital 14%
- iii. Rate of depreciation applicable to machine 15% on W.D.V. basis [Additional depreciation is not available]
- iv. Present value Factor @ 12%

At the end of Year	I	II	III	IV	V	VI
	0.892	0.797	0.712	0.635	0.567	0.506

You are required to suggest the better alternative.

6. a) Special provisions in respect of newly established hundred per cent export oriented undertakings.

**OR**

b) Explain the tax planning provisions with reference to reinvestment of Capital Gains.

★★★★★

**FACULTY OF COMMERCE**  
**M.COM (GEN & FA) III SEMESTER (CBCS OLD) EXAMINATIONS JAN/FEB 2024**  
**SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT (OLD)**  
**PAPER – IV (A)**

**Time: 3 Hrs]****[Max. Marks: 80]****SECTION - A (5 X 4 = 20 Marks)****1 Answer ALL Questions**

- A What is Stock Exchange?
- B What are the objectives of security analysis?
- C What do you mean by valuation of securities?
- D What do you understand APT?
- E What is Portfolio Revision?

**SECTION – B (5 X 12 = 60 Marks)****Answer ALL Questions**

2 A Discuss the different channels or alternatives available to an investor for making investments.

**OR**

- B Write in detail about Indian Stock Market.

3 A Describe in detail about Fundamental Analysis.

**OR**

- B Explain different forms of market Efficiency.

4 A The following is the balance sheet of X Ltd, as on 31<sup>st</sup> March, 2022

Liabilities	Rs.	Assets	Rs.
Issued and subscribed capital	4,00,000	Business Premises	2,36,000
4,000 Equity shares of Rs.100 each		Machinery less Dep.	2,60,000
Fully called-up and paid up		Copyrights	40,000
Reserve Fund	2,16,000	Stock in Trade	96,000
Profit and Loss Account	64,000	Accounts receivable	1,76,000
Tax Provision	40,000	Bank Balance	80,000
Account Payable	2,10,000	Cash in Hand	20,000
Rent Payable	6,000	Preliminary Expenses	28,000
<b>Total</b>	<b>9,36,000</b>	<b>Total</b>	<b>9,36,000</b>

For the purpose of valuation of shares of the company, the assets were revalued as follows.

Good will Rs. 2,24,000, Business Premises Rs. 4,96,000, Machinery Rs. 3,40,000, Debtors include Rs. 16,000 as Bad debts. You are required to calculate 'Intrinsic Value' of each equity share.

**OR**

- B What is Bond? Explain the Bond Pricing Theorems.

**(Contd.....)**

5 A Explain the Approaches in Portfolio Construction.

**OR**

B Mr Tamarind intends to invest in equity shares of company the value which depends up on various parameters as mentioned below.

Factor	Beta	Expected value in %	Actual value in %
GNP	1.20	7.70	7.70
Inflation	1.75	5.50	7.00
Interest rate	1.30	7.75	9.00
Stock market index	1.70	10.00	12.00
Industrial Production	1.00	7.00	7.50

If the risk free rate of interest be 9.25%, how much the return of the share under Arbitrage Pricing Theory.

6 A What do you mean by mutual funds? Describe the advantages of professionally managed portfolio.

**OR**

B Following are the details of 3 portfolios

Portfolio	Average Returns	Standard deviation	Beta
1	13%	0.25	1.25
2	12%	0.25	0.75
3	11%	0.20	1.00
Market Index	11%	0.25	1.10

The risk free rate of return is 8%. You are required to compare three portfolios on performance using sharpe's , Treynor,s and Jensen measures and comment

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**FACULTY OF SOCIAL SCIENCES  
MSW III SEMESTER (CBCS NEW) EXAMINATIONS JAN/FEB 2024  
RURAL AND TRIBAL COMMUNITY DEVELOPMENT – I  
PAPER – V (A)**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A (4 X 5 = 20 Marks)**

**1. Answer ALL the following questions**

- a) Objectives of micro-finance.
- b) Objectives of SHG
- c) Concept of Watershed.
- d) Community Forest management.

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL Questions**

2. (a) Briefly explain the history of the SHG movement in India and discuss the present problems faced by the SHG with suitable examples.

**OR**

(b) What is the microfinance? Discuss how it helps the empowerment of women through microfinance in the present scenario.

3. (a) Give a detailed description, steps, and components of the process of watershed management with suitable examples.

**OR**

(b) Explain the criteria for the selection of watershed and its planning at the community level with community participation.

4. (a) Elucidate constitutional provisions for tribal community development and its importance in five-year plans.

**OR**

(b) Explain the concept of VSS and briefly discuss the rights, and duties of VSS members.

5. (a) Discuss the constitutional provisions for a weaker section and explain the role of the professional social worker in weaker section development.

**OR**

(b) Discuss the NRM strategy and explain the role and importance of people's participation in NRM.

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**FACULTY OF SOCIAL SCIENCES**

**MSW III SEMESTER (CBCS OLD & NEW) EXAMINATIONS JAN/FEB 2024**

**MEDICAL SOCIAL WORK & COMMUNITY HEALTH - I (OLD & NEW)**

**PAPER - V (B)**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A (4 X 5 = 20 Marks)**

**1. Answer ALL the following questions**

- a) Healthcare Management
- b) Balanced Diet
- c) Rehabilitation
- d) Epidemics

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL Questions**

2. (a) How do you justify that nutrition is very important for overall health protection and describe the policies and services available in Telangana?

**OR**

(b) Give a detailed features and drawbacks account of the National Nutritional Policy 1993.

3. (a) Explain the role of Professional Social Work in the field of Disability Settings.

**OR**

(b) Explain the concept of Community-based rehabilitation, its Need, significance, and scope.

4. (a) Define the outbreak of epidemics, mention some of the significant outbreaks of epidemics of India also highlight measures to be taken for prevention.

**OR**

(b) Elaborate the role of Professional Social Work in the field of health care management.

5. (a) What measures would be suggested for eradication of social stigma among the HIV/AIDS infected?

**OR**

(b) Chronolise the risk assessment process in healthcare management.

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**FACULTY OF ARTS**  
**M.A. (ENGLISH) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**LITERATURE AND FILM**  
**(INTER - DISCIPLINARY)**  
**PAPER – V(A)**

**Time: 3 Hours]**

**[Max. Marks: 80**

**SECTION – A (4 X 5 = 20 Marks)**

**1. Answer ALL the following questions**

- a) What are the elements of a ‘plot’?
- b) Casetti on film as discourse
- c) Character sketch of Lady Macbeth
- d) Significance of the opening and closing scene in Lean’s *A Passage to India*

**SECTION – B (4 X 15 = 60 Marks)**

**Answer ALL the following questions**

2. (a) What are the components of ‘*mis-en-scene*’? How do these components contribute to the film narrative? Explain in detail.

**(OR)**

(b) Define genre in film and discuss its major types.

3. (a) Explain arguments of Francesco Casetti in the essay “Adaptation and Mis adaptations: Film, Literature, and Social Discourses”

**(OR)**

(b) Discuss Dasgupta’s analysis of Indian cinema.

4. (a) What changes did Orson Welles bring into the film adaption of Shakespeare’s *Macbeth*? List and explain.

**(OR)**

(b) How does Patrick Garland adapt Ibsen’s play *A Doll’s House* in his film?

5. (a) Discuss the representation of family in Du Maurier’s story “The Birds” and Hitchcock’s film.

**(OR)**

(b) What kind of relations does Mrs Adela Quested and Dr Aziz share through the novel *A Passage to India*?

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**FACULTY OF ARTS**  
**M.A (ENGLISH) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**TRANSLATION STUDIES**  
**PAPER – V(C)**

**SECTION - A (4 X 5 = 20 Marks)**

**1. Answer ALL questions**

- a) Translation
- b) Administrative Translation
- c) Understanding the local language
- d) Cultural gap in translation

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2. a) Write about source language and target language in translation. How do you use these languages when you translate from one language into other one?

**(OR)**

b) Explain the terms: recreation, transcreation, and interpretation.

3. a) Discuss literary translation. What aspects will you see when you have literary translation.

**(OR)**

b) Write about Legal translation and commercial translation with appropriate examples?

4. a) Write a detailed note on cognitive translation?

**(OR)**

b) What is non-cognitive translation? Explain with necessary examples.

5. a) There are many problems of translation you find when you translate. Discuss.

**(OR)**

b) Usage of idioms and understanding context are some of the language problems in translation. Write a detailed note on it.

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## Faculty of Arts

## M.A. (Urdu) III Semester Examination (CBCS) JAN/FEB 2024

پنجواں پڑچہ اختیاری (الف) (Elective Paper - V (A))

خصوصی مطالعہ۔ اقبال (Khususi Mutalea - Iqbal)

(Time : 3 Hours)

Answer All the questions

Max Marks : 80

## Section - A

(4x5=20) نوٹ: تمام سوالات حل کیے جائیں۔ ہر سوال کے پانچ نشانات مختص ہیں۔ ہر جواب پندرہ سطروں میں تحریر کیا جائے۔

1. اقبال کے بچپن کے حالات تحریر کیجیے۔

2. اقبال نے قوم پرستی اور حب الوطنی پر مبنی کون کون سی نظمیں لکھی ہیں۔

3. نظم "المیس کی مجلس شوریٰ" میں اقبال نے ملت اسلامیہ کی کن کمزوریوں کو جاگر کیا ہے؟

4. درج ذیل شعر کا مطلب بیان کیجیے۔

عقل گو آستان سے دور نہیں :

## Section - B

(4x15=60) نوٹ: تمام سوالات حل کیے جائیں۔ ہر سوال کے پندرہ نشانات مختص ہیں۔ ہر سوال کا جواب چار صفحات سے زیادہ نہ ہو۔

(A).5 عہد اقبال کی سیاسی و تہذیبی صورت حال پر تبصرہ کیجیے۔ یا

(B) اقبال کی اعلیٰ تعلیم اور ملازمت کا حال لکھیے۔

(A).6 اقبال نے اپنے ڈنی سفر میں کن کن شخصیات سے استفادہ کیا؟ تفصیل سے لکھیے۔ یا

(B) اقبال کے اسلامی شعور اور ملی شاعری کا تقدیمی محاکمہ پیچیے۔

(A).7 اقبال کی نظم "ساقی نامہ" کے فکری زاویوں اور فنی جماليات پر روشنی ڈالیے۔ یا

(B) اردو نظم کی تاریخ میں اقبال کے مقام کا تعین کیجیے۔

(A).8 اردو غزل کی روایت میں اقبال کی انفرادیت واضح کیجیے۔ یا

(B) اقبال کی غزلوں میں صنایع و بداعی اور دیگر شعری سوبیوں کے استعمال کا تجزیہ کیجیے۔

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**FACULTY OF ARTS**  
**M.A (TELUGU) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**

తెలుగు నవల

పేపర్ - V (A )

సమయం: 3 గంటలు]

[గరిష్ట మార్కులు : 80

సెక్షన్ - ఎ (4 X 5 = 20 మార్కులు)

1 ఈ క్రింది వానిపై లఘు వ్యాఖ్య వ్రాయండి

- ఎ నవల నిర్వచనాలు
- బి పొరాటిక నవలలు
- సి కుట్టాన్ పాత్ర చిత్రణ
- డి కాలువ మల్లయ్య

సెక్షన్ - బి (4 X 15 = 60 మార్కులు)

అన్ని ప్రశ్నలకు సమాధానాలు వ్రాయండి

2 ఎ తెలుగు నవల స్వరూప స్వభావాలను తెల్పండి

లేదా

- బి తెలుగులో వచ్చిన చారిత్రక నవలలను పరిచయం చేయండి

3 ఎ తెలంగాణ నవల ఆరంబ వికాసాలను వివరించండి

లేదా

- బి తెలంగాణ విమోసోద్యమ నవలలను పరిచయం చేయండి

4 ఎ తెలుగు నవలల్లో రాజశేఖర చరిత్ర ప్రత్యేకతను చర్చించండి

లేదా

- బి పాకుడు రాళ్ల నవలలోని ప్రధాన పాత్రాలను పరిచయం చేయండి

5 ఎ ప్రజల మనిషి నవల వస్తు శిల్పాలను విశ్లేషించండి

లేదా

- బి అంపశయ్య నవలలలోని చైతన్యప్రవంతి ధోరణిని వివరించండి

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**FACULTY OF ARTS**  
**M.A (TELUGU) III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**

తెలుగు కథ

పేపర్ - V (C )

సమయం: 3 గంటలు]

[గరిష్ట మార్కులు : 80

సెక్షన్ - ఎ (4 X 5 = 20 మార్కులు)

1 ఈ క్రింది వానిపై లఘు వ్యాఖ్య వ్రాయండి

- ఎ కథానిక లక్ష్ణాలు
- బి కథా వస్తువు
- సి బోయ జంగయ్య
- డి ఉద్యమ కథ లక్ష్ణాలు

సెక్షన్ - బి (4 X 15 = 60 మార్కులు)

అన్ని ప్రశ్నలకు సమాధానాలు వ్రాయండి

2 ఎ తెలుగు కథానిక స్వరూప స్వభావాలను తెల్పండి

లేదా

- బి తెలుగులో వచ్చిన కథలను వర్ణికరించి పరిచయం చేయండి

3 ఎ కథా వస్తువు, నిర్మాణ శిల్ప రీతులను పరిచయం చేయండి

లేదా

- బి కథానిక రచనలో భాషా శైలి రీతులను వివరించండి

4 ఎ తెలంగాణ కథా వికాసాన్ని చర్చించండి

లేదా

- బి గొల్ల రామవ్య, పంతులు కథలను పరిచయం చేయండి

5 ఎ స్త్రీవాద కథా సాహిత్య వికాసాన్ని విశేషించండి

లేదా

- బి దళితవాద కథా సాహిత్య వికాసాన్ని విశేషించండి

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**FACULTY OF SOCIAL SCIENCES**

**M.A (SOCIOLOGY) III SEM (CBCS NEW & OLD) EXAMINATIONS JAN/FEB 2024**  
**CIVIL SOCIETY, NGO & DEVELOPMENT (NEW & OLD)**  
**PAPER – V (A)**

**TIME: 3 HRS]**

**[MAX.MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Nationalism
- b Third World Societies
- c Middle Class
- d Voluntarism

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A What historical factors contributed to the emergence of the idea of development?**

**OR**

**B What are the key challenges faced by developing countries in achieving economic development?**

**3 A Define the concept of modernization in the context of Third World societies.**

**OR**

**B Describe the interaction between social forces and the state in the development process of Third World nations.**

**4 A What is the role of cooperatives in the development process in India?**

**OR**

**B What is the significance of the middle class in Indian society regarding development initiatives?**

**5 A What are NGOs (Non-Governmental Organizations) and how do they contribute to development efforts?**

**OR**

**B Provide a critical role played by the state, civil society, and NGOs in development efforts.**

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FACULTY OF SOCIAL SCIENCES  
M.A (SOCIOLOGY) III SEMESTER (CBCS NEW) EXAMINATIONS JAN/FEB 2024  
GENDER AND SOCIETY (NEW)  
PAPER – V (B)

TIME: 3 HRS]

[MAX.MARKS: 80]

**SECTION - A (4 X 5 = 20 Marks)**

1 **Answer ALL the questions**

- a Cultural Symbolism
- b Radical Feminism
- c Patriarchy
- d Women Empowerment

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 A Provide an example of how societal norms and expectations shape gender roles.

**OR**

B Name two sociological approaches commonly used to study gender and briefly describe each understandings of sex?

3 A How does economic empowerment contribute to improving the status of women? Provide one example.

**OR**

B How does the unequal distribution of property ownership contribute to gender inequality?

4 A How do caste dynamics influence the formation of development policies in India?

**OR**

B How do NGOs and other voluntary sector organizations contribute to women's development in India?

5 A How did women's movements in pre-independence India contribute to social and political change?

**OR**

B Define eco-feminism and explain its relevance to issues of displacement and environmental justice.

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**FACULTY OF SOCIAL SCIENCES**

**M. A (SOCIOLOGY) III SEMESTER (CBCS OLD) EXAMINATIONS JAN/FEB 2024**  
**DEVELOPMENT MANAGEMENT AND RESEARCH (OLD)**  
**PAPER – V (B)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80**

**SECTION - A (4 X 5 = 20 Marks)**

**1 Answer ALL the questions**

- a Growth with Equity
- b Distribution of Wealth
- c Philosophy of Corporate Social Responsibility
- d Focus Group Discussion

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

**2 A Explain the concept of Development Management and its evolution**

**OR**

**B ‘Socio-cultural factors are responsible to confine the people to the vicious circle of poverty and (re)marginalization’ – substantiate**

**3 A How skill development and training are imperative to combat the unemployment problem in India? Explain**

**OR**

**B Examine diverse fields of development within the framework of participatory development.**

**4 A Discuss the role of community based organization in rural development.**

**OR**

**B Compare and contrast the role of state and NGOs in developing a society.**

**5 A Write a comprehensive note on different qualitative research methods with examples.**

**OR**

**B Delineate the transition of RRA to PRA to PLA with minor additions to the participatory research.**

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**FACULTY OF SOCIAL SCIENCES**  
**M. A (ECONOMICS) III SEMESTER (CBCS) EXAMINATIONS JAN 2024**  
**RURAL DEVELOPMENT**  
**PAPER – V (B)**

**TIME: 3 HRS]**

**[MAX. MARKS: 80]**

**SECTION - A (4 X 5 = 20 Marks)**

1 **Answer ALL the questions**

- a Define the Rural development
- b Write a note on cooperative farming.
- c Define rural money market.
- d What is industrialization?

**SECTION - B (4 X 15 = 60 Marks)**

**Answer ALL questions**

2 A Examine the Approaches to Rural Development.

**OR**

B Discuss the Rural Development with special reference to China.

3 A Explain the Rural Social Structure in India.

**OR**

B Write about the reasons for rising the Poverty and Unemployment in rural areas.

4 A What is the Role of Banking Sector in the Rural Development?-Discuss.

**OR**

B Examine the Financial Sector Reforms.

5 A Write about the role of Rural Industrialization in industrial development.

**OR**

B Examine the how the Inclusive Growth leads to Rural Development.

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**FACULTY OF COMMERCE**  
**MCOM (GEN & FA) III SEMESTER (CBCS NEW) EXAMINATION JAN/FEB 2024**  
**SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT**  
**PAPER - V**

**TIME: 3 HRS]****[MAX. MARKS: 80]****SECTION - A (5 X 4 = 20 Marks)****1 Answer ALL Questions**

- A What is primary and secondary market?
- B What are the objectives of security investment?
- C What is Bond Immunization?
- D What is Portfolio Selection?
- E What is Portfolio performance evaluation?

**SECTION – B (5 X 12 = 60 Marks)****Answer ALL Questions**

2 A What do you mean by Investment? Write down nature and scope of Investment.

**OR**

- B Discuss about NSE and BSE

3 A What is Security analysis? Describe in detail about Fundamental Analysis.

**OR**

- B What is Efficient Market Hypothesis? Explain different types of risks

4 A According to the financial Express Report, October 2020, the rate of return of ram fertilizer stock for the past five years is 18.58 per cent. This is assumed to continue for the next five years and after that rate of return is assumed to have a growth rate is 10 per cent indefinitely. The dividend paid for the year 2019-20 is 18 per cent. The required rate of return is 20 per cent. The price is Rs. 14 on 14.10.2020. Estimate the stock price according to the two stage model.

**OR**

- B What is Bond? Explain the Bond Pricing Theorems.

5 A Following data give the market return and the ram company scrip's return for a particular period.

Index return (Rm)	Scrip return (Ri)
0.50	0.30
0.60	0.60
0.50	0.40
0.60	0.50
0.80	0.60
0.50	0.30
0.80	0.70
0.40	0.50
0.70	0.60

- a) What is the beta value of the ram company scrip?
- b) If the market return is 2, what would be the scrip return?

**(Contd.....)**

**OR**

B Define Markowitz diversification. Explain the statistical method used by Markowitz to obtain the risk reducing benefits.

6 A What is portfolio performance evaluation? Describe the advantages of portfolio performance evaluation

**OR**

B Following are the details of 3 portfolios

Portfolio	Average Returns	Standard deviation	Beta
1	13%	0.25	1.25
2	12%	0.25	0.75
3	11%	0.20	1.00
Market Index	11%	0.25	1.10

The risk free rate of return is 8%. You are required to compare three portfolios on performance using sharpe's , Treynor,s and Jensen measures and comment

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**FACULTY OF COMMERCE**  
**M.COM III SEMESTER (CBCS) EXAMINATIONS JAN/FEB 2024**  
**ACCOUNTING FOR SERVICE ORGANISATION**  
**(ACCOUNTING SPECIALISATION)**  
**PAPER – V (B)**

Time: 3 Hrs]

[Max. Marks: 80]

**SECTION – A (5 X 4 = 20 Marks)****1. Answer ALL Questions.**

- a) What are precautions to be taken in maintaining accounts?
- b) Types of Hospitals
- c) Public Accounts
- d) Features of Farm Accounting
- e) Reasonable Return

**SECTION – B (5 X 12 = 60 Marks)****Answer ALL Questions**

2. a. Explain the Accounting Books and Documents to be prepared by Professional Men

**OR**

b). Dr. Ortho starts his medical practice on 1<sup>st</sup> January 2020 and introduced a capital of Rs. 3,00,000/- Receipt and Payment account as on 31-12-2020.

<b>Receipt</b>	<b>Amount (Rs.)</b>	<b>Payment</b>	<b>Amount (Rs.)</b>
To Consultation Charges	25,00,000	By Clinic Rent	2,40,000
To Capital Introduced	3,00,000	By Salary to Staff	3,00,000
		By Books & Periodicals	15,000
		By Medical Equipment	4,50,000
		By Other Expenses	38,000
		By Balance c/d	
		Cash in Hand	57,000
		Cash at Bank	17,00,000
	<b>28,00,000</b>		<b>28,00,000</b>

- a) Outstanding Salary Rs. 50,000
- b) Medical Equipment was purchased on 01-04-2020
- c) Depreciation on Equipment is 15%

3. a). Explain the Accounting Procedure of Educational Institutions and List the Incomes and Expenses of it.

**OR**

b) Mr. X arrives in Bombay and checks into a room in a five star hotel at 4 p.m. on 1<sup>st</sup> June, 2020 at Rs. 500 per day plus 10% for service charges on European plan. Check out time in the hotel is 12 noon. Calculate the amount payable by Mr. X in the following circumstances:

- a) If Mr. X checks out at 10 p.m. on the same day
- b) If Mr. X checks out at 9 a.m. on 2<sup>nd</sup> June, 2020
- c) If Mr. X checks out at 6 p.m. on 2<sup>nd</sup> June, 2020
- d) If Mr. X checks out at 4 p.m. on 3<sup>rd</sup> June, 2020

(Contd.....)

Show also the Amount payable by Mr. X if the charges were leviable at the rate of Rs. 500 for a stay every 24 hours or part thereof plus service charges at 10%.

4. a). What is Government Accounting? Explain the General Principles of it

**OR**

b) Explain the role of treasuries in relation to Government Accounting.

5. a) What is Farm Accounting? Explain the Objectives of Farm Accounting.

**OR**

b) From the following information prepare Cattle Account to ascertain the profit made by the cattle division.

	<b>No.</b>	<b>Value Rs.</b>
Opening Stock of live stock	100	2,00,000
Closing stock of live stock	118	2,42,000
Opening stock of cattle food		4,000
Closing stock of cattle food		5,000
Purchases of cattle during the year	180	3,70,000
Sales of cattle during the year	175	4,38,000
Sales of carcasses	5	1,000
Purchases of cattle food		40,000
Wages of rearing cattle		10,000

Crop worth Rs. 11,000 grown in the farm was used for feeding the cattle. Out of the calves born 4 died and their carcasses realised Rs. 100.

6. a) What is Double Account System? Explain the Features of Double Account System.

**OR**

b) From the following balances as on December 31, 2004, appearing in the ledger of the Electric Light and Power Co. Ltd. you are required to prepare:

- (a) Revenue Account,
- (b) Net Revenue Account,
- (c) Capital Account, and
- (d) General Balance Sheet.

	Rs.		Rs.
Equity Share	54,900	Stores on hand	700
Debentures	20,000	Cash	300
Lands on 31-12-2003	15,000	Cost of Generating Electricity	3,000
Land Purchased during 2004	500	Cost of Distributing Electricity	600
Machinery on 31-12-2003	60,000	Rent, Rates & Taxes	400
Machinery purchased during 2004	500	Management Expenses	1,200
Mains including cost of laying 31-12-2003	20,000	Depreciation	2,000
Spent on Mains during 2004	5,100	Sale of Current	13,200
Sundry creditors	100	Rent of meters	300
Depreciation Fund	25,000	Interest on debentures	1,000
Sundry debtors for current supplied	4,000	Dividends	2,000
Other Debtors	50	Balance of Net Revenue Account 31-12-2003	2,850

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**FACULTY OF COMMERCE**

**M.COM (GEN) III SEMESTER (CBCS NEW) EXAMINATIONS JAN/FEB 2024**

**PRINCIPLES OF LIFE INSURANCE**

**(BANKING & INSURANCE SPECIALIZATION)**

**PAPER – V (C)**

**Time: 3 Hrs]**

**[Max. Marks: 80**

**SECTION – A (5 X 4 = 20 Marks)**

**1. Answer ALL Questions**

- a) Characteristics of Life Insurance
- b) What is Insurable Interest?
- c) Life Insurance Fund
- d) Significance of life insurance annuities.
- e) Write the Rules of Agency

**SECTION - B (5 X 12 = 60 Marks)**

**Answer ALL Questions**

2. a) Define life insurance and explain the importance life Insurance.

**OR**

b) Explain the need for security against economic difficulties Risk and Uncertainty.

3. a) Explain the essential characteristics of Insurance Contract.

**OR**

b) Write short note about (a) Surrender Value (b) Policy provision (c) Paid up policies

4. a) What do you mean by sum assured in insurance? Explain the factors affecting insurance premium.

**OR**

b) What is Life Insurance Premium? Explain the calculation procedure of Premium.

5. a) Explain important legal provisions of life insurance.

**OR**

b) Describe the significance of life insurance annuities

6. a) Explain the Important characteristics of an Ideal Salesmanship.

**OR**

b) Explain after sale services to customer of life insurance

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FACULTY OF COMMERCE

M.COM (Comp Appl) III SEM (CBCS NEW & OLD) EXAMINATIONS JAN/FEB 2024  
WEB PROGRAMMING (NEW & OLD)

PAPER - V

TIME: 3 HRS]

[MAX. MARKS: 60

**SECTION - A (5 X 2 = 10 Marks)**

**1) Answer ALL Questions**

- a) Write a short note on Web browser.
- b) What are the forms of HTML?
- c) Overview of Java Script
- d) Document object model
- e) Moving elements.

**SECTION - B (5 X 10 = 60 Marks)**

**Answer ALL Questions**

2. a) Explain the different types webserver.

**OR**

b) What is HTML? Describe the basic elements of HTML.

3. a) Describe the difference between HTML and XHTML

**OR**

b) What is CSS? Explain different levels of CSS.

4. a) Write java script code to find total, average, results and graded.

**OR**

b) What is Java Script? Describe the overview of Java script.

5. a) Explain in detail Execution Environment of Java script.

**OR**

b) Describe the handling events of Java Script

6. a) Discuss in detail about dynamic documents with java script.

**OR**

b) What is XML? Describe the differences between XML and HTML

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**FACULTY OF COMMERCE**  
**M.COM (ALL COURSES) III SEM (CBCS OLD) EXAMINATIONS JAN/FEB 2024**  
**CORPORATE TAX MANAGEMENT (OLD)**  
**PAPER – V (A)**

**Time: 3 Hrs]**

**[Max Marks: 80**

**SECTION – A (5 X 4 = 20 Marks)**

**1. Answer ALL Questions**

- a. Assessee in default
- b. Income from House Property
- c. Meaning of Capital Structure
- d. Tax concessions to resulting company in case of amalgamation
- e. Capital Gains

**SECTION – B (5 X 12 = 60 Marks)**

**Answer ALL Questions**

2. a) Explain in detail about the different types of companies for Tax purpose.

**OR**

b) What are various incomes forming part of total income of a Company.

3. a) Explain in brief the various Deductions out of G.T.I. u/s. 80 which can be claimed by company.

**OR**

b) ABC Ltd. submits the following particulars of its income of the previous year ended March 31, 2023.

- i. Profits of Business after deduction donations to approved charitable institution  
Rs. 4,30,000
- ii. Donation to charitable institution by cheque Rs.65,000
- iii. Interest on Govt Securities Rs. 15,000
- iv. Dividend from a domestic company (Gross) Rs. 46,000
- v. Long term capital gain Rs. 1,00,000

During the financial year 2022-23 the company deposited Rs.60,000 in Industrial Development Bank of India. The company distributed a dividend of Rs. 1,00,000 on 6-9-2022.

Compute the taxable income of the company and tax payable by it for the assessment year 2023-24.

4. a) Explain the concept of “Tax Planning”. What are the requirements of tax planning?

**OR**

**(Contd.....)**

b) XYZ Ltd. requires Rs. 75,00,000 to finance its expansion programmes. It has the following three options

	Alternatives		
	I	II	III
Share Capital	75,00,000	30,00,000	15,00,000
9% Debentures	---	30,00,000	20,00,000
Loan from IDBI (12%)	---	15,00,000	40,00,000

The expected rate of return before interest and tax is 25% for the past few years the company has been declaring a dividend of 16%. The tax rate applicable to company is 25%+ Surcharge + Health & Education cess @ 4%

Which is best alternative for the Company?

5. a) What are the important factors in respect of tax planning of amalgamation or demerger of companies?

b) Surya Ltd. wants to acquire an equipment for its sales office costing Rs.10 lakhs. There are two alternatives available:-

- To buy the equipment by taking a loan of Rs.10 lakhs repayable in 5 equal year end instalment together with interest @ 15% p.a.
- To take it on lease basic for a period of 5 years at annual lease rent of Rs.2,50,000 payable at each year end.

**Other information:-**

- Star Ltd is in 30% tax Bracket.
- Rate of depreciation applicable to equipment is 15%.
- The company has a policy of evaluating the capital budgeting proposals at 16% discount rate.
- Present Value Factor for Rs.1 at 16%

Year	I	II	III	IV	V
	0.862	0.743	0.641	0.552	0.476

- The life of the asset is 5 years and at the end of life there will be no scrap value realisation.

As a Tax Consultant, you are asked to suggest that which of the above two options should be exercised?

6. a) Explain the important income tax incentives available to Special Economic Zones.

**OR**

b) Discuss the tax planning in respect of export promotion.

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**FACULTY OF SOCIAL SCIENCES**

**MSW III SEMESTER (CBCS OLD) EXAMINATIONS JAN/FEB 2024**

**CORPORATE SOCIAL RESPONSIBILITY**

**PAPER – V**

**Time: 3 Hrs]**

**[Max. Marks: 80**

**SECTION – A (5 X 4 = 20 Marks)**

**1. Answer ALL Questions**

- a) Types of Non-profit Organization.
- b) Importance of Fundraising.
- c) The concept of CSR.
- d) The concept of resource mobilization.
- e) Sustainable Development.

**SECTION – B (5 X 12 = 60 Marks)**

**Answer ALL Questions**

2. A) What is public relations? Describe the role and process of intra and inter-agency relationships.

**OR**

B) Explain the concept of human resource management and explore the functions and role of the HR manager in the organization

3. A) Elaborate on the basic principles and objectives of the project proposal and its significance.

**OR**

B) Explore the concept of the social impact assessment analysis. What are the skills and techniques needed for social impact assessment?

4. A) Describe the concept, characteristics, and theories of leadership with suitable examples.

**OR**

B) What is the networking? Explain the various types and the significance of networking in the social work field.

5. A) Illustrate the significant benefits of CSR to business and society.

**OR**

B) Explain in brief the basic objectives, principles, and models of CSR.

6. A) Discuss the role of a professional social worker in CSR implementation and planning.

**OR**

B) Describe the role and approaches of the Government in supporting and employing of CSR.

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