

FACULTY OF ARTS  
M.A. (ENGLISH) I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
**HISTORY, STRUCTURE AND DESCRIPTION OF ENGLISH - I**  
PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Grimm's Law.
2. Bilabial Sounds.
3. Minimal Pairs.
4. Gender and number in noun phrase.
5. Concord.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Classify Indo-European family of languages and explain on what basis they are classified?  
(OR)  
b) Write in detail about the descent of English from Old English to Middle English.
7. a) Describe consonant sounds in English according to their manner of articulation.  
(OR)  
b) Describe 'monophthongs' using vowel diagram.
8. a) Explain the mechanism of "Speech Production" in detail.  
(OR)  
b) Write 12 differences between General Indian English and Received Pronunciation.
9. a) What is a Noun Phrase? Explain Noun Phrase Structure with examples.  
(OR)  
b) Explain the Simple Sentence in English with examples.
10. a) What are Phrasal Verbs? Explain in relation to Verb Phrase structure with examples.  
(OR)  
b) What are the semantic implications of Subordination? Explain.

FACULTY OF ARTS  
M.A. (HINDI) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017  
HINDI SAHITYA KA ITIHAS – I  
(AADIKAAL BHAKTI KAAL AUR REETIKAAL)

**PAPER – I**

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

**Section – A**

सूचना - निम्न लिखित प्रश्नों के उत्तर एक पृष्ठ से अधिक न हो ।

(5x4=20)

1. आदिकाल के नामकरण पर विचार कीजिए ।
2. भक्तिकालिन सूफीकाव्य धारा की सामान्य प्रवृत्तियों का परिचय दीजिए ।
3. राम काव्य की प्रमुख विशेषताओं पर प्रकाश डालिए ।
4. रीतिकालीन काव्य की साहित्यिक विशेषताओं को रेखांकित कीजिए ।
5. रीतिकालीन कवियों के काव्यों का परिचय दीजिए ।

**Section – B**

सूचना - निम्न लिखित प्रश्नों के उत्तर 4 पृष्ठों से अधिक न हो ।

(5x10=50)

6. a) पृथ्वीराज रासों काव्य की विशेषताओं का आकलन कीजिए ।  
(OR)  
b) हिन्दी साहित्य के इतिहास के काल-विभाजन से सम्बद्ध विविध मतों की समीक्षा कीजिए ।
7. a) निर्गुण भक्ति शाखा के अन्तर्गत कबीर का महत्व प्रतिपादित कीजिए ।  
(OR)  
b) भक्तिकाल की प्रमुख प्रवृत्तियों का परिचय दीजिए ।
8. a) कृष्ण काव्य परम्परा पर एक निबन्ध लिखिए ।  
(OR)  
b) अष्टछाप के कवियों का परिचय देते हुये उनकी प्रमुख विशेषताओं पर प्रकाश डालिए ।
9. a) बिहारी को रीति काल का प्रमुख कवि माना जाता है- इस कथन की समीक्षा कीजिए ।  
(OR)  
b) रीतिकाल की विशेषताओं पर प्रकाश डालिए ।
10. a) रीतिमुक्त और रीति बद्ध काव्य के अन्तर को स्पष्ट कीजिए और दोनों धराओं के प्रमुख कवियों का परिचय दीजिए ।  
(OR)  
b) जायसीकृत पदमावती की कथा बताते हुए उसके उद्देश्य को बताइए ।

FACULTY OF SOCIAL SCIENCES  
MCN I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
**INTRODUCTION TO COMMUNICATION AND MASS MEDIA**  
PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Elements of Communication
2. SMCR Model
3. Agenda Setting Theory
4. Traditional Media
5. Golakonda Patrika

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) What is Communication? Explain nature and functions of communication.  
(OR)  
b) What are the barriers of communication?
7. a) Explain Shannon and Weaver model of communication.  
(OR)  
b) Explain Lasswell model of communication.
8. a) Explain about the ‘Roger’s theory of Diffusion of Innovation.  
(OR)  
b) Explain different types of ‘Normative media theories.
9. a) Explain the history of print media in India.  
(OR)  
b) What is the present status of Regional media?
10. a) Explain about the Pioneers of Telangana Press; Suravaram Prathapa Reddy.  
(OR)  
b) Explain about the contribution of Bhagya Reddy Varma for the Social reforms in media.

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FACULTY OF ARTS  
M.A.(TSD) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017  
CLASSICAL POETRY

**PAPER – I**

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

**Section – A**

సూచన: క్రింది ప్రశ్నలకు ఒకపేజి మించకుండా సమాధానాలు వ్రాయండి.

(5x4=20)

1. నన్నయ కవితా రీతులు.
2. పాల్కురికి సోమన కృతులు.
3. పోతన రచనాశైలి.
4. కొరవి గోపరాజు పరిచయం.
5. అన్నమయ్య కీర్తనలు.

**Section – B**

సూచన: క్రింది ప్రశ్నలకు నాలుగు పేజీలు మించకుండా సమాధానాలు వ్రాయండి.

(5x10=50)

6. a) శ్రీ మహాభారత అవతారికను గూర్చి వర్ణించండి.  
(లేదా)  
b) ఉద్యోగపర్వంలో గల సంజయరాయభారం గూర్చి తెల్పండి.
7. a) గద్య కావ్యంగా "బసవోదాహణం" విశ్లేషించండి.  
(లేదా)  
b) రంగనాథ రామాయణంలో ద్విపద దేశివాళిని వర్ణించండి.
8. a) శ్రీ మహాభాగవతంలో ప్రహ్లాద చరిత్రము గూర్చి వివరించండి.  
(లేదా)  
b) హంసడింభకోపాఖ్యానం ఆధారంగా నాచన సోమన శైలిని వర్ణించండి.
9. a) కొరవి గోపరాజు సింహాసన ద్వాత్రింశికను గూర్చి తెల్పండి.  
(లేదా)  
b) మను చరిత్రలోని ద్వితీయాశ్వాసం గూర్చి వివరించండి.
10. a) రామదాసు కీర్తనల్లో గల దాస సాహిత్యాన్ని వివరించండి.  
(లేదా)  
b) యక్షగాన కథాలక్షణాల ఆధారంగా "బాలనాగమ్మ" ను విశ్లేషించండి.

FACULTY OF ARTS  
M.A. URDU I- SEMESTER REGULAR EXAMINATIONS, DEC 2017  
TARIQ-E-ADAB URDU (BEGINNING TO 1857)  
PAPER - I

Time: 3 Hours]

[Max. Marks: 70

نوٹ:- حصہ الف اور حصہ ب کے تمام سوالات کے جواب مطلوب ہیں۔  
(حصہ الف)

نوٹ:- تمام سوالات کے جواب مطلوب ہیں۔ ہر سوال ایک صفحہ سے  
زائد نہ ہو۔  
(5×4=20)

- 1- اے صاحب دیوان شاعر محمد قلی قطب شاہ پر نوٹ لکھیے۔
  - 2- نضرتی کی شاعرانہ عظمت بیان کیجیے۔
  - 3- مثنویوں میں مافوق الفطرت عناصر کی نشاندہی کرتے ہوئے چند مثالیں پیش کیجیے۔
  - 4- غواہی پر اظہار خیال کیجیے۔
  - 5- "دبستان دہلی" کی شاعرانہ خصوصیات بیان کیجیے۔
- (حصہ ب)

نوٹ:- تمام سوالات کے جواب مطلوب ہیں۔ ہر جواب چار صفحات  
سے زائد نہ ہو۔  
(5×10=50)

- 6- اردو زبان کے آغاز و ارتقاء پر مدتل نوٹ لکھیے۔  
(یا)

- 7- علی عادل شاہ ثانی شاہی کے ملام کی خصوصیات بیان کیجیے۔  
(یا)
- 8- رزمیہ مثنوی "علی نامہ" کے متعلق اپنی معلومات قلم بند کیجیے۔

8:- "سب رس" کے علامتی کرداروں پر مفصل نوٹ لکھئے۔  
(یا)

بحیثیت عوامی شاعر قلی قطب شاہ کے یہاں موضوعات کا تنوع  
پایا جاتا ہے اس خیال سے آپ کس حد تک متفق ہیں۔؟

9:- فورٹ ولیم کالج کی ادبی خدمات پر تفصیلی روشنی ڈالئے۔  
(یا)

شمالی ہند میں اردو نثر کے آغاز و ارتقاء پر جامع نوٹ لکھئے۔

10:- > ملی کالج کی ادبی خدمات پر روشنی ڈالئے۔  
(یا)

شمالی ہند میں اردو شاعری کے آغاز و ارتقاء پر اپنی معلومات رقم لکھئے۔

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FACULTY OF SOCIAL SCIENCES  
M.A (Economics) I– SEMESTER REGULAR EXAMINATIONS, DEC-2017  
**MICRO ECONOMIC ANALYSIS - I**  
PAPER – I

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

**Section – A**Answer the following questions in not more than **ONE** page each: (5x4=20)

1. Quantity Equivalent Variation
2. Learning Curve
3. Economic Efficiency
4. Degree of Price Discrimination
5. Kinked Demand Curve

**Section – B**Answer the following questions in not more than **FOUR** pages each: (5x10=50)

6. a) Analyse the Hicks substitution effect in indifference curve analysis  
(OR)  
b) How do you measure consumer surplus through indifference curves? Discuss.
7. a) Explain Hicks and Harrod Technical Progress in determination of level of output of a firm.  
(OR)  
b) Critical analyse the modern theory of costs.
8. a) Explain the features of perfect competition market.  
(OR)  
b) Discuss about the theory of Second Best.
9. a) How does price and output determined under monopolistic market in chamberlin's model.  
(OR)  
b) Discuss about Monopsony Market.
10. a) Explain the characteristics of oligopoly market and discuss about 'Sweezy' kinked demand model.  
(OR)  
b) Explain the Edgeworth model of Duopoly Market.

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FACULTY OF SOCIAL SCIENCES  
M.A. (Political Science) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017  
**WESTERN POLITICAL THOUGHT-I**  
PAPER –I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Political Theory
2. Philosopher King (Plato)
3. Hegel's Dialectics
4. Hobbes State of Nature
5. Machiavelli's views on Human Nature

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Examine the reasons for the revival of political theory.  
(OR)  
b) Describe the features of Interpretative Theory.
7. a) Critically examine Plato's Theory of Education.  
(OR)  
b) Write an essay on Aristotle's Theory of State.
8. a) Elucidate the relationship between the state and the Church as conceived by St. Augustine.  
(OR)  
b) Examine Machiavelli's contribution to the modern political thought.
9. a) Write an essay on Hobbes Social Contract Theory.  
(OR)  
b) Explain Rousseau's Theory of General Will.
10. a) Examine Bentham's Utilitarian Concept.  
(OR)  
b) "J.S. Mill was the prophet of liberty" – Explain.

FACULTY OF SOCIAL SCIENCES  
M.A. (Public Administration) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017  
**ADMINISTRATIVE THEORY-I**  
PAPER –I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Conflict Resolutions
2. Representative Bureaucracy
3. Line and Staff
4. Zone of Indifference
5. Ideas of Golembiewski

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Critically examine the Kautilya's Saptanga theory.  
(OR)  
b) Discuss the significance of Administrative theory.
7. a) Explain Weber's Concept of Bureaucracy.  
(OR)  
b) Write an essay on Samuel Krislor views on Bureaucracy.
8. a) Discuss the contribution of Urwick to Administrative theory.  
(OR)  
b) Discuss the importance of principles of organization.
9. a) Discuss chester I Barnards views on communication.  
(OR)  
b) Examine the views of Follet on Conflicts in organization.
10. a) Write a note on Dwight Waldo's Contribution to the study of Public Administration.  
(OR)  
b) Discuss the contribution of Golembiewski Contribution to Administrative theory.

FACULTY OF SOCIAL SCIENCES  
M. S.W. I – SEMESTER REGULAR EXAMINATIONS, DEC-2017  
**SOCIAL WORK PROFESSION, PHILOSOPHY AND IDEOLOGY**  
PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. What is Philanthropic Social Work?
2. Discuss Voluntary Social Action.
3. Discuss contribution to social welfare.
4. Basic principles of social work.
5. Explain psychiatric social work.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Define Social Work? Trace the historical development of social work in India.  
(OR)  
b) Explain the religious rationalistic and modern philosophical base for social work.
7. a) Discuss the Indian voluntary organizations.  
(OR)  
b) Briefly explain the social service tradition in Indian Culture.
8. a) Critically examine the contributions in development of social work profession.  
(OR)  
b) Discuss the meaning of Bhakti? Explain contribution of Bhakti movement in Indian era.
9. a) Briefly explain values, and functions of Professional Social Work.  
(OR)  
b) Discuss the contribution of Gandhian Ideology in professional social work practice.
10. a) Explain the Urban, Rural and Tribal Community development in fields of social work practice.  
(OR)  
b) Write a note on family and child welfare in the fields of social work practice.

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FACULTY OF BUSINESS MANAGEMENT  
MBA I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
**MANAGEMENT THEORY & PRACTICE**  
PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Functions of top management.
2. Characteristics of a sound plan.
3. Principles of Organizing.
4. Motivation.
5. Characteristics of effective leaders.

Section – B

(5x8=40)

Answer the following questions in not more than **FOUR** pages each:

6. a) Explain the nature and scope of management.  
(OR)  
b) Discuss briefly the Classical and Behavioral approaches to management.
7. a) “There is no alternative to planning”. Discuss this statement.  
(OR)  
b) Define MBO. Discuss the various strategies for effective decision making process.
8. a) Discuss important elements of an organisation.  
(OR)  
b) Distinguish between line and staff organisation.
9. a) What is Controlling? Discuss the various steps involved in the control process.  
(OR)  
b) Describe the procedure for selection of employees in a large sized manufacturing organization.
10. a) What are the different management styles and approaches? Explain.  
(OR)  
b) Compare between the various management practices of Japan and America.

Section-C

(1x10=10)

**Case Study**

Mr. Sunil Kumar, General Manager of a manufacturing company is upset over frequent clashes and continuing conflict between production and personnel departments. The enterprise is organized on line-staff pattern. What can be the possible cause of this conflict and what steps can be taken to reduce and overcome it?

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FACULTY OF COMMERCE  
M.Com (GENERAL) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017  
**MANAGERIAL ACCOUNTING**  
PAPER –I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. State the Limitations of Management Accounting Systems.
2. State the Objectives of ASB in India.
3. Define Responsibility Accounting and state its features.
4. Distinguish between CPP and CCA methods.
5. What is meant by Harmonization in financial reporting?

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) What is Accounting Theory and explain its significance.  
(OR)  
b) Distinguish between Financial Accounting and Management Accounting.
7. a) Discuss the functioning of standard setting bodies.  
(OR)  
b) Explain the Standards Setting Process in India.
8. a) Explain the advantages and limitations of HRA.  
(OR)  
b) A merchandising firms sells its goods through department stores and discount houses which it has set up for operating the sales. From the following information, comment on the performance of two responsibility courses based on over all ROI and expanded ROI.

Particulars	Department Stores	Discount ware houses
Divisional Profit	Rs.20,000	Rs.32,000
Divisional Investment	Rs.1,00,000	Rs.1,60,000
Divisional Sales	Rs.2,00,000	Rs.4,80,000

9. a) Explain the advantages and limitations of Inflation Accounting System.

(OR)

- b) From the following information, ascertain net monetary result at 2015

Particulars	1-1-2015	31-12-2015
Bank	Rs.2,000	3,000
Account Receivable	Rs.10,000	12,000
Accounts Paybles	Rs.15,000	10,000
Price Index	100	200

Average for the year 160.

10. a) Explain the elements in True blood Report of USA and the corporate report of UK in detail.

(OR)

b) Discuss the recent bounds in corporate reporting in Indian business environment.

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FACULTY OF COMMERCE  
M.Com. (E-Commerce) I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
**ORGANIZATIONAL THEORY AND BEHAVIOUR**  
PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Explain the concept of organization.
2. Explain the individual behavior.
3. Explain the concept of motivation.
4. What is organizational conflict?
5. What are the characteristics of leadership?

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) What is Neoclassical theory of organization? Explain its features and limitations?  
(OR)  
b) What is organizational behaviour? What are its features?
7. a) What is personality? Explain the determinants of personality?  
(OR)  
b) Explain the factors influencing Team effectiveness.
8. a) Explain Maslow's need Hierarchy theory.  
(OR)  
b) Define organizational culture. What are the characteristics of organizational culture?
9. a) Explain the concept of organizational power and politics.  
(OR)  
b) What is negotiation? Explain the process and approaches of negotiations?
10. a) Define leadership. Explain the different types of leadership styles?  
(OR)  
b) What is Change? Discuss the challenges contributing to change.

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FACULTY OF SCIENCE  
M.Sc. (Applied Statistics) – I SEMESTER REGULAR EXAMINATIONS, DEC-2017  
**LINEAR ALGEBRA AND LINEAR MODELS**  
PAPER -I

Time:3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section –B.

Section – A

[5x4 = 20

Answer the following questions in not more than **ONE** page each:

1. Distinguish between Moore-Penrose inverse and g-inverse.
2. Verify whether the following quadratic form is positive definite or not.
3. Define general linear model and explain the underlying standard assumptions of the model.
4. Explain the use of orthogonal polynomials in polynomial regression by means of an illustration.
5. State and prove the relationship between BLUEs and linear zero-functions.

Section – B

[5x10 = 50

Answer the following questions in not more than **FOUR** page each:

6. a) Obtain the Moore Penrose inverse of the following matrix.

$$\begin{bmatrix} 4 & 5 & 6 \\ 1 & 2 & 3 \\ 7 & 8 & 9 \end{bmatrix}$$

(OR)

- b) State and prove the condition for the existence of a set of non-homogenous linear equations.
7. a) If  $\mathbf{A}$  is a  $n \times n$  real symmetric matrix, then prove that there exists an orthogonal matrix  $\mathbf{P}$  such that  $P'AP = \Delta$ , where  $\Delta$  is diagonal matrix of characteristic roots of  $\mathbf{A}$ .  
(OR)
- b) State and prove Cauchy-Schwartz and Hadamard matrix inequalities.
8. a) Discuss the nature, sources and consequences of multicollinearity.  
(OR)
- b) Explain generalized linear model. State and prove Aitken's theorem of generalized least squares.
9. a) Derive the least squares estimators of the simple linear regression and show that they are BLUEs.  
(OR)
- b) State and prove the relationship between multiple and partial correlations in case of two explanatory variables.
10. a) What are dummy variables and explain their role in multiple regression model?  
(OR)
- b) In the multiple regression model  $\mathbf{y} = \mathbf{X}\boldsymbol{\beta} + \boldsymbol{\varepsilon}$ , derive the test procedure for examining the goodness of fit the model.

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FACULTY OF SCIENCES  
M.Sc. (Bio-tech.) I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
**GENETICS**  
**PAPER – I**

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

**Section – A**Answer the following questions in not more than **ONE** page each: (5x4=20)

1. Hemophilia
2. Nucleosome Phasing
3. Gene Mapping
4. Non-Mendelian inheritance
5. Pedigree analysis

**Section – B**Answer the following questions in not more than **FOUR** pages each: (5x10=50)

6. a) Write a short note on
  - i) Multiple Allelism
  - ii) X-linked inheritance

(OR)

 b) Write about the different types of Epistasis?
7. a) Write a short note on
  - i) Centromere
  - ii) Telomere

(OR)

 b) Write about detailed explanation of chromatin organization.
8. a) Write a short note on
  - i) Tetrad analysis
  - ii) Lod scores

(OR)

 b) Cytological proof of crossing over? Discuss?
9. a) Write about Maternal inheritance? Give any two examples?
 

(OR)

 b) Write a short note on
  - i) Is elements
  - ii) S-gene in nicotiana
10. a) Explain in detail about chromosomal theory of inheritance.
 

(OR)

 b) Write a short note on
  - i) Phases of Linkage
  - ii) Two and Three Point Test Cross

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FACULTY OF SCIENCES  
M.Sc. (BOTANY) I – SEMESTER REGULAR EXAMINATION, DEC- 2017

PHYCOLOGY

**PAPER – 01**

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

**Section – A**

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. Algal cell structure
2. *Microcystis*
3. Morphology of *Porphyra*
4. Algal blooms
5. Asexual reproduction in algae

**Section – B**

Answer the following questions in not more than **FOUR** pages each: (5x10=50)

6. a) Illustrate the diverse habitats of algae.  
(OR)  
b) Explain Fritsch system of algal classification.
7. a) Narrate the life history of *Cladophora*.  
(OR)  
b) Give an account of classification, morphology and life history of *Lyngbya*.
8. a) Write about the general characteristics of Xanthophyceae.  
(OR)  
b) Explain the life history of *Sargassum*.
9. a) What are Biofertilizers? Write about algal biofertilizers.  
(OR)  
b) Explain the economic importance of algae.
10. a) Give an account of Fossil algae.  
(OR)  
b) Write about the algae of diverse habitats.

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FACULTY OF SCIENCES  
M.Sc. (GEOINFORMATICS) I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017

**GEOGRAPHIC INFORMATION SYSTEM**

PAPER – I

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

**Section – A**

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. What are the main functions of GIS?
2. Write a short note on spaghetti and topological model.
3. What is digitization?
4. Distinguish between Geographic field and Geographic Objects.
5. Define the term data and Information.

**Section – B**

Answer the following questions in not more than **FOUR** page each: (5x10=50)

6. a) Explain in brief the various development stages of GIS.  
(OR)  
b) What is GIS Data? Explain its significance in representing Geographic Space.
7. a) Elucidate the characteristics of vector based GIS and explain in detail.  
(OR)  
b) Explain the different procedures involved in digitization of map in GIS environment.
8. a) What are the various methods of data collection techniques in GIS and explain in detail.  
(OR)  
b) Explain the various methods involved in rectification of digital maps and explain any one method in detail.
9. a) What is database management system and explain main types of DBMS in detail.  
(OR)  
b) Explain the different types of data query operations in GIS.
10. a) Bringout the recent trends in GIS.  
(OR)  
b) Differentiate between the raster and vector data structure models.

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FACULTY OF SCIENCE  
M.Sc. (CHEM-OC/PCH-2YGP) I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
**INORGANIC CHEMISTRY**  
PAPER – 01  
(Common paper)

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all the following questions from Section-A and Section-B

Section – A

(5x4=20)

Answer all the following questions in not more than **ONE** page each:

1. Define the rotational axis of symmetry and explain  $C_2$  rotational axis in water molecule?
2. Explain the Octahedral Complex d-orbital Splitting Pattern.
3. Derive the relation between stepwise stability constant and overall stability constant?
4. Explain Stereochemical control of valance in  $[\text{Co}(\text{diars})_2(\text{NO})]^{2+}$  and  $[\text{Co}(\text{diars})_2(\text{NO})(\text{SCN})]^+$ .
5. Define the Magnetic Susceptibility of Metal Complex and give the deferent types of Magnetic Susceptibilities?

Section – B

(5x10=50)

Answer all the following questions in not more than **FOUR** pages each:

- 6 a) Explain all the symmetry elements in octahedral point group with one example molecule.  
(OR)  
b) Write the symmetry applications of optical activity and Dipole moment in the molecules.
- 7 a) i) Difine the John-tellor distortion in distorted octahedral complexes.  
ii) Explain the Weak Field & Strong Field Complexes.  
(OR)  
b) i) Explain the Guoy's Method in determination of magnetic moment of metal complexes.  
ii) Discuss Quenching of orbital angular moment in 3d- series metal complexes.
- 8 a) i) Explain trends in stepwise stability constants.  
ii) Explain Chelate effect [Size and number of rings] on stability constant.  
(OR)  
b) i) Explain the Pearson's theory of Hard Soft Acid Base classification.  
ii) Determine the stability constants in spectrophotometric method?
- 9 a) i) Draw the molecular orbital energy level diagram of Carbon Monoxide (CO) ligand.  
ii) Explain the  $18e^-$  rule in metal carbonyl complexes.  
(OR)  
b) i) Draw the molecular orbital energy level diagram of di-nitrogen molecule ( $\text{N}_2$ )  
ii) Explain the Chemical fixation of di-nitrogen.

- 10 a) i) Define the improper axis of symmetry and explain  $S_2$ -improper axis in ethylene molecule?  
ii) Explain application of magnetic moment data for the determination of oxidation state of metal ion in complex.

(OR)

- b) i) Explain Ionic Potential of metal ion effect on stability constant.  
ii) Write the bonding modes of Nitrosyl ligand.



FACULTY OF SCIENCE  
M.Sc. (PHYSICS/PE) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017  
**MATHEMATICAL PHYSICS AND NUMERICAL METHODS**  
PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all the following questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Obtain the generating function for Bessel Function.
2. Find the finite fourier cosine transform of  $e^{ax}$ .
3. Explain Bisection method to find roots of a quadratic equation.
4. State and explain quotient law of tensors.
5. Write Legendre functions of first and second kind.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

- 6 a) Obtain the power series solution of Legendre's differential equation.  
(OR)  
b) Obtain orthogonal properties of Hermite differential equations.
- 7 a) List out properties of Fourier transform.  
b) Explain how to find derivative of Fourier transform.  
(OR)  
c) What is Laplace transformation?  
d) State and explain Inverse Laplace Theorem.
- 8 a) Using Newton Raphson method, find the root of equation  $x^3 - 2x - 5 = 0$  correct to 3 decimal places.  
(OR)  
b) Use Simpson's  $3/8^{\text{th}}$  rule to evaluate approximate value of  $\int_0^1 \frac{dx}{1+x}$  correct to 3 decimals taking  $h = 0.5$ .
- 9 a) Define contra variant, variant and mixed tensors. Explain how to obtain inner product and outer product of tensors.  
(OR)  
b) Discuss the transformation laws of Christoffel's Symbols.
- 10 a) Obtain Runge-Kutta formula of second and fourth order differential equations.  
(OR)  
b) Find the Fourier transform of  

$$f(x) = \begin{cases} 1 - x^2; & -1 \leq x \leq 1 \\ 0; & |x| > 1 \end{cases}$$

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## FACULTY OF SCIENCE

M.Sc. (MATHEMATICS) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017

**ALGEBRA****PAPER – I**

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Define G-set and give an example.
2. Prove that there are no simple groups of order 63.
3. For any two ideals A and B in a ring R prove that:  $\frac{A+B}{B} \cong \frac{A}{A \cap B}$ .
4. Show that the group  $\frac{Z}{(10)}$  is a direct sum of  $H = \{\bar{0}, \bar{5}\}$  and  $k = \{\bar{0}, \bar{2}, \bar{4}, \bar{6}, \bar{8}\}$ .
5. Prove that every Euclidean domain is PID.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) If G is a nilpotent group then prove that every subgroup of G and every homomorphic image of G are nilpotent.  
(OR)  
b) State and prove first Isomorphism theorem.
7. a) State and prove second and third Sylow theorem.  
(OR)  
b) If A and B be R-sub modules of R-modules M and N then show that:  $\frac{M \times N}{A \times B} \cong \frac{M}{A} \times \frac{N}{B}$ .
8. a) State and prove Jordan-Holder theorem.  
(OR)  
b) Show that every PID is a UFD, but a UFD is not necessarily a PID.
9. a) Find the rank of the linear mapping:  
 $\phi: \mathbb{R}^4 \rightarrow \mathbb{R}^3$  Where  
 $\phi(a, b, c, d) = (a + 2b - c + d, -3a + b + 2c - d, -3a + 8b + c + d)$ .  
(OR)  
b) For any two ideals A and B in a ring R, prove that:  
 $\frac{A+B}{A \cap B} \cong \frac{A \times B}{A} \times \frac{A+B}{B} \cong \frac{B}{A \cap B} \times \frac{A}{A \cap B}$
10. a) State and prove fundamental theorem of R-Homomorphism.  
(OR)  
b) Show that the commutative integral domain  $R = \{a + b\sqrt{-5} / a, b \in z\}$  is not a unique factorization domain.

FACULTY OF SCIENCES  
ZOOLOGY I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
**STRUCTURAL BIOLOGY**  
PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Polysaccharides
2. Transamination
3. Cell cycle
4. Semi conservative replication
5. Prostaglandins

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Describe Protein Structures in detail.  
(OR)  
b) Write about the types of RNA.
7. a) Write the steps involved in TCA cycle.  
(OR)  
b) Explain the metabolic disorders of Protein metabolism.
8. a) Write a note on Chemical Signaling between the cells.  
(OR)  
b) Give the molecular organization of cell membranes.
9. a) Explain the events in Protein Synthesis.  
(OR)  
b) Write about the enzymology of DNA replication.
10. a) Briefly explain the process of oxidation of fatty acids.  
(OR)  
b) Describe the mechanism of repair of DNA damaged by UV light.

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FACULTY OF SCIENCE  
M.C.A. I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
DISCRETE MATHEMATICS

**PAPER – I**

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Write Basic Connectivities and their truth tables.
2. Explain Recursive definitions.
3. Write about Derangements.
4. Define Algebraic Structures with examples.
5. Define Trees? Explain their properties.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Explain the different logic gates and discuss about Don't Care Condition.  
(OR)  
b) i) Discuss about Venn Diagrams.  
ii) Prove that  $(A-(A-B)) = A \cap B$ .
7. a) i) Explain Well ordering principle theorems.  
ii) Discuss about Pigeonhole Principle.  
(OR)  
b) i) Explain Partial order relations with examples.  
ii) Discuss about Euclidean Algorithm.
8. a) Write Basic inclusion and exclusion principle. How many of the integers from 1 to 1000 are relatively prime to 1000.  
(OR)  
b) i) Explain Summation Operation.  
ii) Discuss about Rooks Polynomial.
9. a) Define Groups with examples? And explain the elementary properties of groups.  
(OR)  
b) Explain First-order linear recurrence relation.
10. a) What are Planar graphs? Explain Hamiltonian Cycle and Hamiltonian Paths.  
(OR)  
b) Define Spanning Trees? How to find minimal spanning tree explain with an examples.

FACULTY OF SOCIAL SCIENCES  
PG/B.L.I.S. I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
**LIBRARY AND SOCIETY**  
PAPER – I

Time: 3 Hours]

[Max. Marks: 80

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Librarianship as Profession.
2. Academic Libraries.
3. CAS.
4. Indian Library Association.
5. What is Library Legislation?

Section – B

(5x12=60)

Answer the following questions in not more than **FOUR** pages each:

6. a) What are the Objectives and Functions of the Library?  
(OR)  
b) Give an account of User Studies and User Education.
7. a) What is Second Fundamental Law of LIS? What are the implications on it?  
(OR)  
b) Explain about the Functions, Objectives and Services of INL.
8. a) Write a brief summary of Library Development.  
(OR)  
b) What is the need and purpose of Resource Sharing? And comment on the areas of Resource Sharing.
9. a) Trace the Library Movement in India since Independence.  
(OR)  
b) Give a brief summary of NASSDOC.
10. a) What is Library Legislation and comment on Library Legislation in India?  
(OR)  
b) Give an account of Library Education in India.

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FACULTY OF SOCIAL SCIENCES  
M.A. (APE: 5-YIPGP) V – SEMESTER REGULAR EXAMINATIONS, DEC-2017  
CLASSICAL POLITICAL ECONOMY

**PAPER – I**

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Views of Plato.
2. Division of labour.
3. Exploitation of labour.
4. Materialistic interpretation of history.
5. Monopoly capitalism.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) What is physiocracy? What are the main ideas of physiocrats?  
(OR)  
b) Discuss the main economic ideas of Aristotle.
7. a) Examine the relationship between distribution and growth in Ricardian theory.  
(OR)  
b) Critically examine Malthusian theory of Market Gluts.
8. a) According to Marx, how will the capitalism lead to the emergence of communism?  
(OR)  
b) Explain the main ideas of Proudhon.
9. a) Elucidate the laws of motion of capitalist development.  
(OR)  
b) According to Schumpeter, what is the role of entrepreneur in economic development?
- 10.a) What is a command economy?  
(OR)  
b) Discuss the Neo-Marxist approach to monopoly capitalism.

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FACULTY OF SCIENCE  
M.Sc. (PCH-5YIPGP) V-SEMESTER REGULAR EXAMINATIONS, DEC-2017  
**PHYSICAL CHEMISTRY AND TOPICS OF INDUSTRIAL IMPORTANCE**  
PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all the following questions from Section-A and Section-B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Derive Clapeyron equation.
2. Give the difference between thermal and photo chemical process with examples.
3. Explain characteristics of enzyme catalysis.
4. Definition and classification of nanodimensional materials and particles.
5. Phase transfer catalysis in green chemistry.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

- 6 a) Derive Gibbs-Duhem equation and explain its significance and write a note on phase equilibrium.  
(OR)  
b) Explain fugacity, fugacity coefficient and determination of fugacity.
- 7 a) Explain quenching of fluorescence and derive stern-volmer equation.  
(OR)  
b) Explain fluorescence, phosphorescence, Internal Conversion and Inter System Crossing with the help of Jablonski diagram.
- 8 a) Derive B.E.T. equation.  
(OR)  
b) Write a detailed note on Fischer Tropsch Synthesis and Water-gas shift reaction.
- 9 a) Describe the carbon related nanostructures, properties and applications.  
(OR)  
b) Explain the synthesis of nanomaterials and their characterization techniques.
- 10 a) Write a detailed note on 12 principles of green chemistry with suitable examples.  
(OR)  
b) Explain the green synthesis of adipic acid, poly lactic acid and biodiesel.  
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FACULTY OF SCIENCES  
MCA V – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
SOFTWARE TESTING

**PAPER – I**

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

**Section – A**

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. What are guidelines for boundary value testing? Explain.
2. What are Test Coverage Metrics?
3. Explain about Call graph-based integration.
4. Describe state chart-based system testing.
5. Give a closer look at the NIST study.

**Section – B**

Answer the following questions in not more than **FOUR** page each: (5x10=50)

6. a) Explain about worst-case testing, special value testing and random testing.  
(OR)  
b) Discuss about retrospective on functional testing.
7. a) Explain about basis path testing.  
(OR)  
b) Briefly discuss about data flow testing.
8. a) What are alternative life cycle models? Explain in detail.  
(OR)  
b) Explain about path-based integration.
9. a) Discuss about methods as units.  
(OR)  
b) What is GUI? Explain GUI testing.
- 10.a) Explain the following:
  - i) Recommendations for all pairs testing.
  - ii) Java and J Unit example.(OR)  
b) Explain the following:
  - i) Appropriate models for model-based testing
  - ii) Mapping test practices to diverse projects.

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FACULTY OF BUSINESS MANAGEMENT  
 IMBA V – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
**HUMAN RESOURCE MANAGEMENT**  
 PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x3=15)

Answer the following questions in not more than **ONE** page each:

1. a) What are different levels of management?
- b) Define Planning.
- c) Explain about need hierarchy model of motivation.
- d) What is job description?
- e) What do you mean by effectiveness of training in achieving objective of organization?
- f) What are the different types of tests in selection?
- g) What is balance score card?
- h) What is grievance cell?

Section – B

(5x8=40)

Answer the following questions in not more than **FOUR** pages each:

2. a) Write in detail about the scope of HRM.  
(OR)  
b) What are the different roles of an HR executive?
3. a) Write in detail about Human Resource Planning.  
(OR)  
b) Explain the Job analysis process in detail.
4. a) Mention the need and objectives of training.  
(OR)  
b) Explain Selection Process in detail.
5. a) What is Good discipline system? Discuss.  
(OR)  
b) What is Collective Bargaining? Explain the procedure in detail.
6. a) How do you measure Effectiveness of Stress Management.  
(OR)  
b) What is diversity? How can work culture diversity be managed in organization?

Section – C (Compulsory)

(1x15=15)

Mrs. Krupa Devi worked for 20 years in the Horlicks Biscuits Ltd., she joined very recently the Nutrine Biscuits Ltd, as the production manager. She was supposed to attend a routine departmental heads meeting last Friday at 4.30p.m., which was presided over by the managing director of the company. She did not attend the meeting as there was no formal or informal communication to her, the managing director didn't like her absence as there were many important items to be discussed regarding production department. Mrs. Krupa Devi was called by the managing director on the next day and asked explanation for not attending the meeting. Mrs. Krupa Devi replies that there was no information. The secretary said that it was a

P.T.O

routine meeting and as such information was not sent to any departmental head. But all other heads, except Mrs. Krupa Devi, attended the meeting.

**Questions:**

- a. Who is responsible for the occurrence of such a mistake?
- b. Find out the reason for the incident. How do you propose to solve such problems in future?

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FACULTY OF SOCIAL SCIENCES  
M.A. (APE: 5-YIPGP) VII – SEMESTER REGULAR EXAMINATIONS, DEC-2017  
MICRO ECONOMIC ANALYSIS - I  
**PAPER – I**

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Assumptions of revision of demand theory.
2. Average fixed cost.
3. Reserve price.
4. Degrees of price discrimination.
5. Characteristics of oligopoly.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) What is price effect? Explain the Hicks and Slutsky methods of separation of price effect.  
(OR)  
b) Explain the fundamental theorem of consumer behavior.
7. a) Explain the identification of least cost input combination with the help of isoquants.  
(OR)  
b) What is technical progress? Explain Harrod's classification of technical progress.
8. a) Explain the short run equilibrium of a firm operating under perfect competition.  
(OR)  
b) Bring out the reasons for market failure.
9. a) Explain the features of monopony and bilateral monopoly.  
(OR)  
b) What is monopoly? Explain long run equilibrium under monopoly.
10. a) What are iso-profit and reaction curves? Explain Cournot's modern version of duopoly.  
(OR)  
b) What is price leadership? Explain the working of price leadership by a low cost firm.

FACULTY OF SCIENCE  
M.Sc. (PCH-5YIPGP) VII-SEMESTER REGULAR EXAMINATIONS, DEC-2017  
**PHARMACOLOGY**  
PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all the following questions from Section-A and Section-B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Write a note on mixed function oxidases involved in biotransformation.
2. Write about ganglionic blocking agents.
3. Write the mechanism of action and therapeutic uses of Adrenaline.
4. Write a note on Prostaglandins?
5. Write about oral contraceptives in brief.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

- 6 a) i) Write a note on combined effects of drugs with suitable examples.  
ii) How factors affecting dissolution may alter the drug action.  
(OR)  
b) i) Write a note on routes of drug administration with their merits and demerits.  
ii) Discuss about pharmacogenomics?
- 7 a) i) Give the classification, pharmacological actions and therapeutic uses of cholinesterase inhibitors.  
ii) Write a note on local anaesthetics?  
(OR)  
b) i) Classify anti-parkinsonian drugs. Write the pharmacological actions and adverse drug reactions of levodopa.  
ii) Write a note on CNS neurotransmitters?
- 8 a) i) Write about angiotensin converting enzyme inhibitors in hypertension.  
ii) Classify anti arrhythmic agents. Describe the pharmacology of class-I anti arrhythmic agents.  
(OR)  
b) i) Write a note on drugs used in the treatment of hypertension?  
ii) Discuss the use of sympathomimetics in the management of bronchial asthma.
- 9 a) i) Write a note on role of vit. K in blood coagulation and HMG Co-A reductase inhibition.  
ii) What is the role of diethylstilbestrol in hormone replace therapy?  
(OR)  
b) i) Classify anti thyroid drugs with suitable examples. Give the pharmacology.  
ii) Write a note on platelet activating factor (PAF) and discuss pharmacological implications of PAF antagonists.
- 10 a) i) Write a note on peptic ulcer disease and its treatment.  
ii) Write a note on atropine poisoning and its treatment.  
(OR)  
b) i) Write the factors that modify drug action with suitable examples.  
ii) Write a note on thrombolytic agents and their uses.

FACULTY OF BUSINESS MANAGEMENT  
 IMBA VII – SEMESTER REGULAR EXAMINATIONS, DEC- 2017  
**MANAGEMENT THEORY & PRACTICE**  
 PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x3=15)

Answer the following questions in not more than **ONE** page each:

1. Functions of top management.
2. Characteristics of a sound plan.
3. Principles of Organizing.
4. Motivation.
5. Characteristics of effective leaders.

Section – B

(5x8=40)

Answer the following questions in not more than **FOUR** pages each:

6. a) Explain the nature and scope of management.  
(OR)  
b) Discuss briefly the Classical and Behavioral approaches to management.
7. a) “There is no alternative to planning”. Discuss this statement.  
(OR)  
b) Define MBO. Discuss the various strategies for effective decision making process.
8. a) Discuss important elements of an organisation.  
(OR)  
b) Distinguish between line and staff organisation.
9. a) What is Controlling? Discuss the various steps involved in the control process.  
(OR)  
b) Describe the procedure for selection of employees in a large sized manufacturing organization.
10. a) What are the different management styles and approaches? Explain.  
(OR)  
b) Compare between the various management practices of Japan and America.

Section-C

(1x15=15)

**Case Study**

Mr. Sunil Kumar, General Manager of a manufacturing company is upset over frequent clashes and continuing conflict between production and personnel departments. The enterprise is organized on line-staff pattern. What can be the possible cause of this conflict and what steps can be taken to reduce and overcome it?

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FACULTY OF SOCIAL SCIENCES  
M.A. (APE: 5-YIPGP) IX – SEMESTER REGULAR EXAMINATIONS, DEC-2017

ECONOMETRICS - I

**PAPER – I**

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Simple linear regression model.
2. Coefficient of determination.
3. Autocorrelation.
4. Properties least square estimates.
5. Dummy variable.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Explain the nature and scope of Econometrics.  
(OR)  
b) Explain the assumptions of error term in the regression model.
7. a) What is meant by multiple regression model, and explain estimation of parameters in the multiple regression model.  
(OR)  
b) Discuss the relationship between simple and multiple regression models.
8. a) Why does auto correlation problem arises and explain consequences of autocorrelation.  
(OR)  
b) What is meant by multicollinearity? Explain consequences of multicollinearity and remedial measures.
9. a) Explain nature and consequences of Heteroscedasticity.  
(OR)  
b) Discuss the nature of errors in variable.
10. a) Explain the uses of dummy variable.  
(OR)  
b) Explain the concept logit model and estimation.

FACULTY OF SCIENCE  
M.Sc. (PCH-5YIPGP) IX-SEMESTER REGULAR EXAMINATIONS, DEC-2017  
**DOSAGE FORMULATIONS**  
PAPER – I

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all the following questions from Section-A and Section-B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Write a short note on partition coefficient.
2. Explain merits and demerits of prolonged action formulations.
3. Describe the preparation of liposomes by solvent dispersion.
4. Explain the concept of Good Manufacturing Practices.
5. Write about coat and core materials used in micro encapsulation.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

- 6 a) Explain the influence of oxidation, hydrolysis and recemization on stability of drugs with examples.  
(OR)  
b) Write a note on following physical properties of drugs.  
i) Particle size      ii) Solubility      iii) Polymorphism
- 7 a) Mention the approaches based on drug modification and dosage form modification of sustained release oral product.  
(OR)  
b) Describe briefly about pan coating & spray drying techniques in micro encapsulation.
- 8 a) Explain about Transdermal Drug Delivery Systems.  
(OR)  
b) Describe the concept, advantages and disadvantages of ocular drug delivery system.
- 9 a) Write a note on dissolution studies for solid dosage forms.  
(OR)  
b) Define the term 'Validation' and explain different types of validation in pharmaceutical operations.
- 10 a) Define 'Bioavailability' and describe the methods for enhancement of bioavailability.  
(OR)  
b) Write a note on 'Nano Particles' as drug carriers' in controlled and targeted drug delivery systems.

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