

FACULTY OF ARTS
M.A. (ENGLISH) I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017
ENGLISH LITERATURE UP TO THE EARLY 17TH CENTURY-I
PAPER – II

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. A Short note on Reformation.
2. Edmund Spencer's Sonnet 68.
3. Sketch the character "Bosola" in *Duchess of Malfi*.
4. Good and Bad Angles in *Dr. Faustus*.
5. Bacon's "Of Truth".

Section – B

(5x10=50)

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

6. a) What was the impact of Renaissance on Literature? Discuss.
(OR)
b) Discuss the origin and growth of British Drama with suitable examples.
7. a) How does Geoffrey Chaucer expose his contemporary times with different tales?
Explain.
(OR)
b) What meta poetic elements and ideas are conveyed in the sonnets of Spencer 34, 54, and 68?
8. a) Discuss Jonson's art of characterization in *Everyman in His Humour* with reference to the theory of Humor?
(OR)
b) Discuss Malfi as perversion of Justice.
9. a) Sketch the character, Hieronimo in Spanish Tragedy.
(OR)
b) Write a critical note on *Dr. Faustus*.
10. a) Give a critical analysis of the essays written by Francis Bacon?
(OR)
b) What according to Sidney is the relationship between pleasure and learning?
Discuss in detail.

FACULTY OF ARTS
M.A.(Hindi) I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017
MADHYA YUGEEN KAVYA

PAPER – II

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 ।

निम्न लिखित पद्यांशों की संदर्भ सहित व्याख्या कीजिए ।

(5x4=20)

1. कबीरदास कृत 'बीजक' के 'सुमिरण कौ अंग' के किन्हीं दो दोहों की व्याख्या कीजिए ।
2. तुलसीदास कृत 'विनय पत्रिका' के किसी एक पद की व्याख्या कीजिए ।
3. बिहारी सतसई की भाषिक विशेषताओं पर विचार कीजिए ।
4. सूरदास की वात्सल्य भावना पर अपने विचार लिखिए ।
5. रहीम के दोहों में वर्णित सदाचार के उपदेश पर अपने विचार लिखिए ।

Section – B

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

(5x10=50)

6. a) कबीरदास के रहस्यवाद के सिद्धान्त को सोदाहरण समझाइए ।
(OR)
b) निर्गुण भक्ति परंपरा में कबीरदास के महत्व पर प्रकाश डालिए ।
7. a) तुलसीदास के काव्य के आधार पर तुलसी की दास्य भक्ति भावना को समझाइए ।
(OR)
b) तुलसीदास का काव्य साहित्य का परिचय दीजिए ।
8. a) 'भ्रमरगीत' में वर्णित गोपिकाओं के विरह वर्णन की सोदाहरण व्याख्या कीजिए ।
(OR)
b) सूरदास की कृष्ण भक्ति भावना को सोदाहरण सुस्पष्ट कीजिए ।
9. a) बिहारी सतसई में वर्णित नायिका भेद पर सोदाहरण प्रकाश डालिए ।
(OR)
b) बिहारी के काव्य में वर्णित नायिका के 'नख-शिख' वर्णन पर सोदाहरण प्रकाश डालिए ।
10. a) रहीम के दोहों के आधार पर रहीम को कृष्ण भक्त कवि सिद्ध कीजिए ।
(OR)
b) कृष्ण-भक्ति परंपरा में रहीम के स्थान को सुस्पष्ट कीजिए ।

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FACULTY OF SOCIAL SCIENCES
M.A. (MASS COMMUNICATION) I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017
REPORTING AND EDITING-I
PAPER – II

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. Dateline
2. Spot News
3. General Desk
4. Sub-Editor Qualities
5. Layout

Section – B

(5x10=50)

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

6. a) Explain the Structure of News Report.
(OR)
b) What are the news values and their role in the selection of news?
7. a) What are the sources of news in the field of journalism.
(OR)
b) What are the different types of Crimes? Explain the challenges for crime reporter.
8. a) Describe the organizational structure of the editorial department.
(OR)
b) What are the different Desks in a Newspaper and write about their roles briefly?
9. a) Explain the editing process and elaborate on the skills required in editing.
(OR)
b) Write about the importance of headlines and what are the various types of headlines.
10. a) Elaborate on the basic principles of page design and Layout.
(OR)
b) Write an essay on the importance of photos, graphics and other images in news.

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FACULTY OF ARTS
M.A.(TSD) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017
TELUGU GRAMMER
PAPER – II

Time: 3 hours]

[Max. Marks: 70

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

Section – Aసూచన: క్రింది ప్రశ్నలకు ఒకపేజి మించకుండా సమాధానాలు వ్రాయండి.

(5x4=20)

1. పరుషములు
2. వృత్తి
3. ఖండబిందువు
4. తుల్యంబు
5. ప్రేరణార్థక ప్రత్యయం

Section – Bసూచన: క్రింది ప్రశ్నలకు నాలుగు పేజీలు మించకుండా సమాధానాలు వ్రాయండి.

(5x10=50)

6. a) బాలవ్యాకరణ పరిచ్ఛేద వర్గీకరణను విశ్లేషించండి.
(లేదా)
b) తెలుగు వ్యాకరణ గ్రంథాలను స్థూలంగా పరిచయం చేయండి.
7. a) దంత్యతాలవ్య చజలపై వ్యాఖ్య వ్రాయండి.
(లేదా)
b) ద్రుతము గురించి వ్యాఖ్యానించండి.
8. a) ‘సమర్థంబులను పదంబులేక పదంబగుట సమాసంబు’ వ్యాఖ్యానించండి.
(లేదా)
b) కర్మకారకం గురించి వివరించండి.
9. a) “అడ్డాదుల కించుక్కు పరంబగునప్పుడు గుగాయంబగు నప్పాదులకు విభాషనగు” వివరించండి.
(లేదా)
b) ‘ధాతువునకగు’ వ్యాఖ్యానించండి.
10. a) ‘సంస్కృత సమేతరంబయిన యీభాష యచ్చయనంబడు తాత్పర్యాన్ని తెలుపండి.
(లేదా)
b) ద్విరుక్తటకారంపై సూరి, బహుజనపల్లి వారి అభిప్రాయాలను వ్రాయండి.

FACULTY OF ARTS
M.A. URDU I- SEMESTER REGULAR EXAMINATIONS, DEC 2017
DAASTAN
PAPER -II

Time: 3 Hours]

[Max. Marks: 70

نوٹ: سیکشن A اور سیکشن B میں دیے گئے تمام سوالات کے جوابات لازمی ہیں۔

سیکشن - A - Section

نوٹ: ذیل میں دیے گئے تمام سوالات کے جوابات لکھیے۔
جواب ایک صفحہ سے زیادہ نہ ہو۔
(5X4=20)

- 1۔ داستان کی تکنیک اور فنی تقاضوں کی وضاحت کیجیے۔
- 2۔ داستان میں فوق الفطرت عناصر کی کارفرمائی پر نوٹ تحریر کیجیے۔
- 3۔ داستان کی تعریف کیجیے اور بتائیے کہ یہ ناول اور افسانے سے کیسے مختلف ہے۔
- 4۔ داستان کے مطالعے کی اہمیت واضح کیجیے۔
- 5۔ "سب رس" کے مصنف و جہتی کے بارے میں آپ کیا جانتے ہیں لکھیے۔

سیکشن - B - Section

نوٹ: ذیل کے سوالات کے جوابات لکھیے۔ ہر سوال کا جواب
چار صفحات سے زیادہ نہ ہو۔
(5X10=50)

- 6۔ داستان کے آغاز و ارتقاء کا جائزہ لیجیے۔
(یا)
داستان کے عروج و زوال کے اسباب پر روشنی ڈالئے۔
- 7۔ "سب رس" کی اہمیت قعے کی وجہ سے نہیں بلکہ زبان اور
اسلوب کی وجہ سے ہے۔ بحث کیجیے۔
(یا)
"سب رس" کے پلاٹ کا تنقیدی جائزہ لیجیے۔

- 8:- اردو نثر کی تاریخ میں "باغ و بہار" کی اہمیت اجاگر کیجیے۔
(یا)
باغ و بہار کی روشنی میں میر امن کی کردار نگاری کا محکمہ کیجیے۔
- 9:- مہمانہ عجائب کی ادبی و تہذیبی اہمیت پر روشنی ڈالیے۔
(یا)
رجب علی بیگ سرور کے سوانحی حالات تحریر کیجیے۔
- 10:- خواجہ سگ پرست کے کردار پر اظہار خیال کیجیے۔
(یا)
ملکہ مہر نگار کے کردار کا تنقیدی جائزہ لیجیے۔

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

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. Circular flow of income
2. Distinguish between short-run and long-run consumption function
3. Distinguish between MEC and MEI
4. Money Multiplier
5. Transactions demand for money

Section – B

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

6. a) Explain the balance of payments accounting of national income.
(OR)
b) Explain the different approaches to macro economics.
7. a) Explain the main elements of keyne's absolute income hypothesis.
(OR)
b) Critically examine the life cycle hypothesis of consumption.
8. a) Compare and contrast the profit and accelerator theories of investment behavior.
(OR)
b) Explain the growth and development of capital markets in India.
9. a) Critically examine the RBI approach to money supply.
(OR)
b) Explain the relationship between budget deficits and money supply.
10. a) Critically evaluate the Fisher's quantity theory of money.
(OR)
b) Explain the derivation of LM Curve.

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FACULTY OF SOCIAL SCIENCES
M.A. (Political Science) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017
INTERNATIONAL RELATIONS -I
PAPER –II

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. Treaty of Westphalia
2. Neo-realism
3. Feminism and War
4. Bipolarity
5. Geo-Economics

Section – B

(5x10=50)

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

6. a) Examine the Evolution and Growth of International Relations.
(OR)
b) Critically examine the Idealist approach to International Relations?
7. a) “Realism has proved to be the most influential theory in explaining the nature of world policies”. Explain.
(OR)
b) Analyze the impact of idealist approach on International Relations.
8. a) How the Marxist Theory hegemony helps in enriching our understanding of the dynamics of International Policies? Discuss.
(OR)
b) Discuss in detail the Feminist Theory of Power.
9. a) Discuss the concept of peace in International Relations.
(OR)
b) Examine the concept of Conflict Resolution in International Relations.
10. a) Bringout the reasons for the emergence of Uni-Polar World.
(OR)
b) Discuss the significance of Geo-Politics in International Relations.

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FACULTY OF SOCIAL SCIENCES
M.A. (Public Administration) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017
MANAGEMENT (Science & Techniques)
PAPER –II

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. Role of Management
2. The Great Illumination
3. Barriers to Communication
4. PERT
5. Organizational Development

Section – B

(5x10=50)

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

6. a) Explain the meaning and scope of management.
(OR)
b) Describe the various levels of management.
7. a) Write an essay on Behavioral School of Management.
(OR)
b) Discuss the concept and significance of change management.
8. a) Define Co-ordination and highlight its characteristics.
(OR)
b) Discuss the principles of balance between Authority and Responsibility.
9. a) What is Management by Objectives? Write about its advantages and weakness.
(OR)
b) Explain the objectives and limitations of management information systems.
10. a) Discuss the techniques and limitations of Operation Research.
(OR)
b) Discuss the Cost Benefit Analysis.

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FACULTY OF SOCIAL SCIENCES
M. S.W. I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017
SOCIAL CASE WORK
PAPER – II

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. Objectives of social case work
2. Family and therapy
3. Transference
4. Social advocate
5. Role of review in case work

Section – B

(5x10=50)

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

6. a) Define social work and discuss its methods.
(OR)
b) Describe the process of social case work.
7. a) Discuss the models of helping individuals.
(OR)
b) Explain the theories of helping individuals.
8. a) Describe development of effective communication in social case work.
(OR)
b) Define interview and critically examine the role interviewing in social case work.
9. a) Discuss the role of social case worker in welfare agency.
(OR)
b) Explain the need and role of social case worker in industry setting.
10. a) Define skill and discuss the role of analysis of cases in social case work.
(OR)
b) Explain the need and importance of study in presentation of cases in social case work.

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FACULTY OF BUSINESS MANAGEMENT
MBA I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017
MANAGERIAL ECONOMICS
PAPER – II

Time: 3 Hours]

[Max. Marks: 70
(5x4=20)Section – AAnswer the following questions in not more than **ONE** page each:

1. Risk and uncertainty
2. Delphi method
3. CVP analysis
4. Oligopoly
5. Nash Equilibrium

Section – B

(5x8=40)

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

6. a) Explain the opportunity cost concept. How is it useful to the Managerial Economist in Business decision making?
(OR)
b) Explain the role and functions of a Managerial Economist in Business.
7. a) What is meant by Demand function, Demand schedule and Demand curve? Explain the important determinants of demand.
(OR)
b) What are the different Survey Demand Forecasting Methods that are usually used by Indian Managers?
8. a) How does a producer attain Equilibrium? Illustrate with the help of Isoquants.
(OR)
b) Discuss how the different Economies Managed by the Managers.
9. a) Explain the features of Monopolistic. How price and output decisions are taken under the monopolistic competition?
(OR)
b) What do you mean by Price Discrimination using Coupons and Rebates? Explain with examples.
10. a) What is Game theory? Explain infinitely repeated games and finitely repeated games briefly.
(OR)
b) Discuss the applications of Game Theory for formulating strategies by forms in Oligopoly.

Section – C (Compulsory)

(1x10=10)

A garden nursery manager is exploring a wide variety of planting opportunities. He has a fixed acreage of land and is facing the problem of determining which plants to propagate and grow. What ages to assume in such choices, what future prices should be assumed as well as what prices to charge now on plants which are already matured. In addition, the nursery must determine when to mark down prices on plants lying up land needed for other uses and when to destroy the plant materials that are in the way. In solving his problems, he wants to apply the three kinds of reasoning namely, incremental, discounting and opportunity cost. Comment on his approach to the solution of his problems. Examine clearly his difficulties of applying the above-mentioned threefold reasoning and also indicate the limitations of each of the reasoning.

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

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. Economic Optimization.
2. Law of Demand.
3. Economics of Scale.
4. Break Even Point.
5. Characteristics of Perfect Competition.

Section – B

(5x10=50)

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

6. a) i) Explain the difference between Economic profit and Accounting profit.
ii) Mr. Anil quit his Rs.16,00,000p.a., job and started his own consultancy. His previous year's revenue and expenses are as follows:

Total Revenue	17,00,000
Advertising Expenses	50,000
Insurance expenses	70,000
Secretary salary	52,000
Other expenses	90,000

Calculate Mr. Anil accounting and Economic profit and comment on his decision to quit the job to start consultancy.

(OR)

- b) i) Explain the objectives of Firm?

- ii) The total revenue function (TR) of a firm is given by:

$$TR = 20Q - Q^2 \text{ and the total cost function (TC) is } TC = 50 + 4Q.$$

Find the rate of output that maximizes profit.

7. a) i) What is Demand Function? Explain different types of elasticity?

- ii) Given the demand function;

$$Q_D = 400 - 20P$$

You are requested to find the demand and Total Revenue (TR), Average Revenue (AR) And Marginal Revenue (MR) when price is changing from Rs.2 to Rs.10.

(OR)

- b) i) Explain the importance and various methods of demand estimation.

- ii) If the quantity demanded of rice is 4 kgs at an income of Rs.1000p.m. and 5 kgs at an income of Rs.1,500 p.m. find the income elasticity of demand.

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8. a) i) Explain the concept of production function. How does a firm optimize its production with one variable input?
ii) Compute the marginal production of labor and capital at $L=2$ and $K=3$ for the production function $Q = 20K^{0.5}L^{0.5}$.

(OR)

- b) i) Explain the law of diminishing marginal returns and provide an example of the phenomenon.
ii) Give the following data for two periods;
 $Q_1 = 500$ $K_1 = 20$ $L_1 = 40$ $r = 2$
 $Q_2 = 600$ $K_2 = 22$ $L_2 = 43$ $w = 4$
9. a) i) Describe the various short run cost functions.
ii) If $TC = 1000 + 60Q - 6Q^2 + 0.5Q^3$. Find out the quantity that minimizes the average variable cost.

(OR)

- b) i) Distinguish between linear and non-linear break even points, explain with diagrams
ii) Given the following total revenue and total cost functions.
 $TR = 50Q$,
 $TC = 1000 + 30Q$.
You are required to determine the break even rate of output also the output rate necessary to earn a profit of Rs.20,000.

- 10.a) What is a "Kinked Demand Curve", and in which market form we can find it? Why do we usually find price stability under this condition.

(OR)

- b) Explain how the consumer is a sufferer under a monopoly market structure?

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FACULTY OF COMMERCE
M.Com. (E-Commerce) I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017
FINANCIAL MANAGEMENT
PAPER – II

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. Profit maximization Vs wealth maximization.
2. What are the investment evaluation techniques?
3. What are the Constituents of capital structure?
4. Dividend Vs profit Retention.
5. What are the components of working capital?

Section – B

(5x10=50)

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

6. a) Discuss the scope and function of Financial Management.

(OR)

- b) Explain the role of Financial Manager in the business organization.

7. a) Explain the various techniques used for incorporating risk factor in capital budgeting decisions.

(OR)

- b) A Company is considering two mutually exclusive projects. Both require an initial outlay of Rs.2,00,000 each and have a life of 5years. The company's required rate of return is 10 per cent. The projects will be depreciated on straight line basis. The expected cash flows are as follows:

Year	Project-X	Project-Y
1	Rs.80,000	Rs.1,20,000
2	Rs.80,000	Rs. 60,000
3	Rs.80,000	Rs. 40,000
4	Rs.80,000	Rs.1,00,000
5	Rs.80,000	Rs.1,00,000

Determine the net present value for each project and indicate which project should be Selected and why?

8. a) Define optimum capital structure and discuss very briefly the determinants of capital structure.

(OR)

- b) Calculate the Operating, Financial and Combined leverages from the following information.

Sales	Rs.50,000
Variable Cos	Rs.25,000
Fixed costs	Rs.15,000
Interest	Rs. 5,000

9. a) Explain in detail the factors influencing the Dividend Policies.

(OR)

b) TSV company belongs to a risk-class for which the appropriate capitalization rate is 10%. It currently has outstanding 25,000 shares selling at Rs.100 each. The firms contemplating the declaration of dividend of Rs.5 per share at the end of current financial year. The company expects to have a net income of Rs.2,50,000 and has a proposal for making new investments of Rs.5,00,000 show that, under the MM theory, the payment of dividend does not affect the value of the firm.

10. a) Explain the objectives and importance of cash management.

(OR)

b) While preparing a project report on behalf of a client, you have collected the following data.

Estimate the net working capital required for the project. Add 10% to your computed figured to allow for contingencies.

<u>Estimated cost per unit</u>	<u>Amount per unit</u>
Raw material	Rs.80
Direct labor	Rs.30
Overheads	Rs.60
Total	<u>Rs.170</u>

Additional information:

Selling Price	Rs. 200 per unit
Level of activity	1,00,000 units of production
Raw material in stock	average 4 weeks
Work-in-process	
(Assume 50% completion)	average 2 weeks
Finished goods in stock	average 4 weeks
Credit allowed by supplier's	average 4 weeks
Credit allowed by Debtors	average 8 weeks
Lag in payment of wages	average 2 weeks
Cash in bank is expected to be	Rs.50,0000.

You may assume that production is carried out evenly throughout the year (52 weeks) and wages and overheads accrue similarly. All sales are on credit.

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FACULTY OF SCIENCE
M.Sc.(Applied Statistics) – I SEMESTER REGULAR EXAMINATIONS, DEC-2017
PROBABILITY THEORY
PAPER : II

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 Probability as measure and illustrate with a suitable example.
2. State Levys continuity theorem and Give its importance and need of study.
3. State Glivenko-Cantelli lemma and give its application.
4. Let $\{X_n, n \geq 1\}$ be the sequence of r. v.'s satisfying $P[X_n = \pm n] = \frac{1}{2}$ Examine whether the sequence holds WLLN?
5. Define polyas' urn model and explain.

Section – B

(5x10 = 50)

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

6. a) Define Distribution function and discuss its properties in detail.

(OR)

- b) If the joint density function of X and Y is given by

$$f(x, y) = \frac{1}{2} y e^{-xy} \quad 0 < x < \infty, 0 < y < 2$$

Find $E[e^{\frac{x}{2}} / Y = 1]$.

7. a) If $\phi_x(t) = e^{-\left(\frac{1}{2}\right)\sigma^2 t^2}$ find the distribution function of X.

(OR)

- b) For any characteristic function $\phi_x(t)$, show that

$$(i) \operatorname{Re}(1 - \phi(t)) \geq \frac{1}{4} \operatorname{Re}[(1 - \phi(2t))]$$

$$(ii) |\phi(t) - \phi(t+h)|^2 \leq 2(1 - \operatorname{Re}(\phi(h)))$$

8. a) Show that convergence in probability is closed under arithmetic operations

$$(i) X_n + Y_n \xrightarrow{P} X + Y \quad (ii) X_n Y_n \xrightarrow{P} XY$$

If $X_n \xrightarrow{P} X$ and $Y_n \xrightarrow{P} Y$ as $n \rightarrow \infty$.

(OR)

- b) State and Prove Borel 0-1 law.

9. a) State and Prove Liapounov's Central Limit theorem.

(OR)

- b) State and Prove Kolmogorov's Strong law of large numbers for independent random variables.

10. a) Let $\{X_n, n \geq 1\}$ be a sequence of independent r.v. with $P[X_n = \pm n^\alpha] = \frac{1}{2}$.

Show that central limit theorem holds $\alpha \geq -\frac{1}{2}$.

(OR)

- b) State and Prove Liapunov's inequality.

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

CELL BIOLOGY

PAPER – II

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. Write about Na⁺ and K⁺ pump
2. Discuss the function of peroxisomes
3. Describe the role of phosphatidyl inositol
4. Write a note on CDK
5. Write about apoptosis in plants

Section – B

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

6. a) Describe the structure of lipid bilayer with its various constituents.
(OR)
b) Describe the structure and function of mitochondria.
7. a) Describe the cell surface receptors in signal transduction.
(OR)
b) Describe the process of interaction and regulation signaling of pathways.
8. a) Discuss the mechanism of cell division.
(OR)
b) Describe Cell cycle and its Mechanism of Regulation.
9. a) Discuss how abnormalities in cell cycle lead to cancer.
(OR)
b) Discuss the role of cohesions and condensins in chromosomes segregation and microtubule function in spindle assembly.
10. a) Write about various internal and external signals which trigger apoptosis.
(OR)
b) Discuss the mechanism of apoptosis and compare it to necrosis.

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

MYCOLOGY

PAPER – 02

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. Heterothallism
2. *Peronospora*
3. Endomycorrhizae
4. Bacteriophage
5. *Phoma*

Section – B

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

6. a) Explain the mechanism of parasexuality in fungi. Add a note on its importance.
(OR)
b) Discuss asexual and sexual modes of reproduction in fungi.
7. a) Discuss the general characters of Myxomycotina.
(OR)
b) Describe the life cycle of *Melampsora*. Add a note on diseases caused by *Melampsora* species.
8. a) Discuss the nutritional and medicinal value of edible mushrooms.
(OR)
b) Discuss the importance of fungi in industry.
9. a) Give a general account of Mycoplasma. Add a note on their economic importance.
(OR)
b) Describe the isolation and purification of virions. Add a note on their economic importance.
10. a) Discuss the role of fungi as Plant Parasites.
(OR)
b) Explain the evolution and phylogeny of fungi.

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

EARTH SYSTEM SCIENCES

PAPER – II

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. Interior of Earth
2. Palaeomagnetism
3. Slope Morphology
4. Anthropogenic Geomorphology
5. Isostasy

Section – B

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

6. a) Give a brief note on Fundamental concepts in geomorphology.
(OR)
b) What is Climate Change? Explain linkage between climate change and Tectonic.
7. a) Explain concept of Plate tectonics. How does Wegners theory of continental drift differs from it.
(OR)
b) Define Geochronology. Explain methods of dating landscapes.
8. a) Bring out differences between Davis and Penks theories of cycle of erosion.
(OR)
b) Describe System Approach in Geomorphology feedback mechanism.
9. a) Explain the landform formed by the fluvial process of denudation.
(OR)
b) How does landscape modification impact on geomorphic process.
10. a) Elaborate the “Concept of Earth as a System”.
(OR)
b) What is meant by Diastrophism? Explain with the help of neat diagrams different forms of diastrophism.

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FACULTY OF SCIENCE
M.Sc. (CHEM/OC/PC-2YPPG) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017
ORGANIC CHEMISTRY
(Common Paper)
PAPER – 02

Time: 3 hours]

[Max. Marks: 70

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

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

1. Write short notes on atropisomerism?
2. Explain E2 mechanism with suitable example?
3. Write the conformational structures of sucrose and lactose.
4. Write any two synthetic preparations of carbazole.
5. Write the synthesis of Sucrose?

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

6. a) i) How Chemical correlation methods are useful in the determination of configuration?
ii) Write a note on the optical activity of allenes.
(OR)
b) Explain the following with examples.
i) Axial Chirality
ii) Helically Chiral Compounds
iii) Determination of Configuration in aldoximes.
7. a) i) What is E1-CB reaction? Illustrate with an example giving mechanism.
ii) Discuss the following with example:
A) Pyrolytic syn elimination B) α -elimination
(OR)
b) How IR and NMR useful in the investigation of reaction mechanism.
8. a) Describe about the absolute configuration of D(+)-glucose.
(OR)
b) How you determine the amino acid sequence in polypeptides by end group analysis.
9. a) i) Discuss the Reactivity of Benzothiophene.
ii) Write any one synthesis of Quinoline
(OR)
b) Write the chemical properties of coumarin?
10. a) i) Draw the Newmann and Fischer Projection formulae of R-2-Butanol.
ii) Discuss the acid-base hydrolysis of proteins.
(OR)
b) i) Explain the anti addition of olefins using Bromine.
ii) Write any two synthetic methods for isoquinole.

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FACULTY OF SCIENCE
M.Sc. (PHYSICS/PE) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017
CLASSICAL MECHANICS
PAPER – II

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. What are world point and world line?
2. Explain the principle of virtual work.
3. What are the conditions for a transformation to be canonical?
4. What is the physical significance of Hamilton's principle function?
5. What are action and angle variables? Explain their significance.

Section – B

(5x10=50)

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

- 6 a) Explain various conservation theorems for a system of particles.
(OR)
b) What is Minkowski four-space? Obtain Lorentz transformation in four spaces.
- 7 a) What is a Lagrangian? Obtain the Lagrangian for a charged particle in the presence of an external electromagnetic field.
(OR)
b) Obtain the Lagrange's equations of motion from the Hamilton's variational principle.
- 8 a) Define Poisson bracket, for any three dynamical variables F , G and K prove that $[F, [G, K]] + [G, [K, F]] + [K, [F, G]] = 0$.
(OR)
b) What is the physical significance of Hamiltonian? Obtain Hamilton's canonical equations of motion for a simple pendulum.
- 9 a) Explain the method of finding solution to a mechanical problem by using Hamilton-Jacobi method.
(OR)
b) What are normal Co-ordinates and normal frequencies? Express both Kinetic and potential energies in terms of normal coordinates.
- 10 a) Define Euler angles and show that these can be seen as three successive rotations which take us from the fixed system to the moving axes system.
(OR)
b) Show that the transformation $q = \sqrt{2P} \sin Q$, $p = \sqrt{2P} \cos Q$ is a canonical transformation.
c) Obtain Lagrange's equation of motion for a compound pendulum.

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FACULTY OF SCIENCE
M.Sc. (MATHEMATICS) I – SEMESTER REGULAR EXAMINATIONS, DEC-2017
REAL ANALYSIS
PAPER – II

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. Show that Cauchy Product of two Convergent Series need not be Convergent.
2. Let $\{S_n\}$ be a sequence of real numbers and E be the set of all sub sequential limits in the extended real number system of $\{S_n\}$ and $S^* = \sup E$. Prove that $S^* \in E$.
3. Suppose $f \in R(\alpha)$ and $g \in R(\alpha)$ on $[a, b]$. Prove that fg and $|f|$ belongs to $R(\alpha)$ on $[a, b]$ also prove that $|\int_a^b f dx| \leq \int_a^b |f| dx$.
4. Define uniform Convergence of a series of functions. Give an example of a series of continuous function where sum function is not continuous.
5. Suppose X is a vector space of dimension n . Prove that a set E of n vectors in X Spans X if and only if E is independent.

Section – B

(5x10=50)

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

6. a) State and Prove Riemann's theorem on rearrangement of series.
(OR)
b) If f is a continuous mapping of a metric space X into a metric space Y and if E is a connected subset of X prove that $f(E)$ is a connected subset of Y .
7. a) i) Suppose f is continuous on $[a, b]$ Prove that $f \in R(\alpha)$ on $[a, b]$.
ii) If f is monotonic on $[a, b]$ and α is continuous on $[a, b]$ prove that $f \in R(\alpha)$ on $[a, b]$.
(OR)
b) If f is a bounded function defined on $[a, b]$ and if α is monotonically increasing and differentiable on $[a, b]$ such that α^1 is Riemann integrable on $[a, b]$ then prove that $f \in R(\alpha)$ on $[a, b]$ if and only if $f\alpha^1$ is Riemann integrable on $[a, b]$ and also prove that $\int_a^b f dx = \int_a^b f \alpha^1 dx$.
8. a) Suppose $\{f_n\}$ is a sequence of continuous functions defined on a compact set K . such that $\{f_n\}$ Converges point wise to a continuous function f on K and if $f_n(x) \geq f_{n+1}(x)$ $\forall x \in K, n = 1, 2, 3, \dots$. Prove that $f_n \rightarrow f$ uniformly on K .
(OR)
b) State and Prove Cauchy's Criterion for uniform convergence of a sequence of functions.
9. a) i) if $A \in \Omega$ and $B \in L(R^n)$ and $\|B - A\| \|A^{-1}\| < 1$ then $B \in \Omega$.
ii) Ω is an open subset of $L(R^n)$ and the mapping $A \rightarrow A^{-1}$ is continuous on Ω .
(OR)
b) Let f maps an open set $E \subseteq R^n$ into R^m . Then prove that f is continuously differentiable on E if and only if the partial derivatives $D_j f_i$ exist and are continuous on E for $1 \leq i \leq m$ and $1 \leq j \leq n$.

10. a) If f is a bounded function defined on $[a, b]$ and f has finite number of points of discontinuities and if α a increasing function which is continuous at the points where f is discontinuous then prove that $f \in R(\alpha)$ on $[a, b]$.

(OR)

- b) Suppose E is an open set in R^n . f maps E into R^m f is differentiable at $x_0 \in E$. g maps an open set containing $f(E)$ into R^K and g is differentiable at $f(x_0)$ then prove that the mapping F if E into R^K defined by $F(x) = g(f(x))$ is differentiable at x_0 and $F'(x_0) = g'(f(x_0)) f'(x_0)$

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FACULTY OF SCIENCE
M.Sc. (ZOOLOGY) I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017
ENVIRONMENTAL AND CONSERVATION BIOLOGY
PAPER – II

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. Micronutrients
2. Edge effect
3. Continental drift
4. Biodiversity Act, 2002
5. Hyperbola

Section – B

(5x10=50)

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

6. a) Define Ecosystem. Add a note on the marine ecosystem.
(OR)
b) Write an essay on the population characteristics and dynamics.
7. a) Explain the acotone concept. Add a note on ecological niche and niche overlap.
(OR)
b) Discuss in detail the Acid rain sources and its impact on biological system.
8. a) Give an account on Renewable and non-renewable resources.
(OR)
b) Classify the various habitats. Comment on desert habitat.
9. a) Describe the principles and scope of environmental impact assessment methods.
(OR)
b) Write an essay on the role of ecological restoration in conservation of local communities.
10. a) Enumerate the biogeographical regions of India and their salient features.
(OR)
b) Write an essay on deforestation and its impact on ecosystem.

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FACULTY OF SCIENCE
M. C. A. I – SEMESTER REGULAR EXAMINATIONS, DEC- 2017
PROBABILITY AND STATISTICS

PAPER – II

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 Numerical and categorical data give an example of each.
2. An MCA Student applies for a job in two firms X and Y, the probability of his being selected in firm X is 0.7 and being reject at Y is 0.5. The probability of at least one of his applications being rejected is 0.6. What is probability that he will be selected in one of the firms?
3. Define rectangular distribution. Find mean and variance.
4. Let X be a continuous random variable with probability density function.

$$f(x) = \begin{cases} ax & , 0 \leq x \leq 1 \\ a & , 1 \leq x \leq 2 \\ -ax + 3a & , 2 \leq x \leq 3 \\ 0 & , \text{ elsewhere} \end{cases}$$
Determine the constant 'a'.
5. If $X=4Y+5$, $Y=kX+4$ are the two lines of regression. if $k = \frac{1}{8}$ find the mean of the variable.

Section – B

(5x10=50)

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

6. a) Give below is the distribution of 140 candidates obtaining marks X or higher in a certain examination (all marks are given in whole numbers):

X	10	20	30	40	50	60	70	80	90	100
More than c.f	140	133	118	100	75	45	25	9	2	0

Calculate the mean, median and mode of the distribution.

(OR)

- b) Draw the histogram and frequency curve for the following data:

Monthly wages in '000 Rs.	11-13	13-15	15-17	17-19	19-21	21-23	23-25
No. of workers	6	53	85	56	21	16	8

7. a) Form a city population, the probability of selecting (i) a male or a smoker is $\frac{7}{10}$, (ii) a male smoker is $\frac{2}{5}$ and (iii) a male, if a smoker is already selected is $\frac{2}{3}$. Find the probability of selecting (a) a non-smoker, (b) a mole, and (c) a smoker, if a male is first selected.

(OR)

b) Define Poisson distribution. Find mean and variance of Poisson distribution.

8. a) Define Normal distribution, and find its moment generating function (MGF).

(OR)

b) In a distribution exactly normal, 10.03% of the items are under 25 kilogram weight and 89.97% of the items are under 70 kilogram weight. What are the mean and standard deviation of the distribution?

9. a) The first four moments of a distribution about the value $x=4$ are -1.5, 17, -30 and 108. Find the corresponding moments about the mean. Also find the moments about origin.

(OR)

b) The following data are given to an economist:

$N=105$, $\sum fd = 46$, $\sum fd^2 = 252$, $\sum fd^3 = 334$, $\sum fd^4 = 1668$. Calculate β_1 and β_2 . Do you think that the distribution is Leptokurtic, Mesokurtic or platukurtic?

10.a) Regression equations of two variables X and Y are as follows.

$3X+2Y-26=0$, $6X+Y-31=0$. Find (i) Mean (ii) the regression coefficients (iii) the coefficient of correlation between X and Y.

(OR)

b) Sample of two types of electric bulbs were tested for length of life and following data were obtained.

	Type I	Type II
Sample Size	9	7
Sample Means	1234 hrs	1036 hrs
Sample Standard Deviation	36 hrs	40 hrs

Is the difference in the means significant to warrant that type-I is superior to type-II regarding the length of life. Using t-test at 5% significance level.

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

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. Normative principles.
2. Write about enumerative classification.
3. PMEST.
4. What do you mean by geographical device?
5. Call Number-Explain.

Section – B

(5x12=60)

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

6. a) What is second law of library science? Explain its implications.
(OR)
b) Elaborately explain the development of the subjects.
7. a) Discuss the salient features of UDC.
(OR)
b) Comment on classification schemes.
8. a) Write a detailed note on general theory of classification.
(OR)
b) Comment on Isolates.
9. a) Explain the principles of Facet Sequence in detail.
(OR)
b) What are the principles of Helpful sequence?
10. a) Comment on Canons for classification.
(OR)
b) Trends in library classification.

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FACULTY OF SOCIAL SCIENCES
M.A. (APE: 5-YIPGP) V – SEMESTER REGULAR EXAMINATIONS, DEC-2017
INTRODUCTION TO PUBLIC FINANCE
PAPER – II

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. Public finance.
2. Matching grant.
3. Social cost.
4. Revenue deficit.
5. Direct versus Indirect taxes.

Section – B

(5x10=50)

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

6. a) What do you mean by federal government and explain the functions of central, state and local governments with reference to India.
(OR)
b) Describe the regulatory functions of the government and its significance from the context of Indian economy.
7. a) Critically examine the inter governmental transfers in federal finance.
(OR)
b) Explain various types of grants and their role in the process of economic development.
8. a) Define public good and explain the factors influencing its price determination.
(OR)
b) Define the externality and its effect on production and consumption levels of economy.
9. a) Explain the structure of government budget.
(OR)
b) What do you mean by budget deficit and fiscal deficit and critically explain the role of fiscal deficit in economic development.
10. a) Explain the modern theory of taxation and its limitations.
(OR)
b) Critically examine the benefit approach of incidence of taxation.

FACULTY OF SCIENCE

M.Sc. (PCH-5YIPGP) V-SEMESTER REGULAR EXAMINATIONS, DEC-2017

CO-ORDINATION AND SUPRAMOLECULAR CHEMISTRY**PAPER – II**

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. Spectrophotometric method and stability constant.
2. SN^1 and SN^2 type ligand substitution reactions.
3. Orgel diagrams.
4. Factors favoring metal-metal bond in clusters.
5. Applications of supramolecular chemistry in pharmacy.

Section – B

(5x10=50)

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

- 6 a) Draw the sigma (σ) and Pi(π) bonding 'MO' diagrams of any one octahedral metal complex.

(OR)

- b) What is Stability Constant? Explain the factors influencing the stability constant.

- 7 a) What are electronic transfer reactions? Explain the inner-sphere electron transfer mechanism with one example.

(OR)

- b) Define trans effect and explain the theories involved in the determination of ligand substitution reactions of square planar metal complexes.

- 8 a) Describe Spin-orbit coupling and quenching of orbital angular momentum on A, E and T ground terms.

(OR)

- b) Write about term symbols, splitting of terms in free atoms and hole formalism.

- 9 a) Explain the use of polyhedral skeletal electron pair theory in determining the structures of clusters.

(OR)

- b) What is isolobal analogy in metal clusters and write the applications of metal clusters.

- 10 a) What is host-guest chemistry? Explain the types of hosts and guest in supramolecular chemistry.

(OR)

- b) Describe the types of non-covalent interaction and their role in supramolecular structure with suitable examples.

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FACULTY OF SCIENCES
MCA V – SEMESTER REGULAR EXAMINATIONS, DEC- 2017
MIDDLEWARE TECHNOLOGIES

PAPER – II

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. Differentiate between general middleware and specific middleware.
2. What different interfaces are associated with EJB implementation?
3. Write about life cycle of state-full session bean.
4. What are advantages of CORBA?
5. Write short note on Marshaling and Remoting.

Section – B

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

6. a) Write in detail about RPC and Client-Server building blocks.
(OR)
b) Explain about WSDL and REST services.
7. a) Describe about different EJB architectures.
(OR)
b) Write short note on
 - i) Roles in EJB
 - ii) Steps for deployment and implementing EJB.
8. a) Write a program for implementing stateless session bean.
(OR)
b) i) Write and explain life cycle of entity bean.
ii) Write about EJB clients.
9. a) Differentiate between EJB and CORBA.
(OR)
b) i) Write about ORB model.
ii) Explain about IDL and write an example IDL program.
10. a) Describe about Proxy and stub in COM technology.
(OR)
b) i) Explain about COM interfaces.
ii) Explain about NET architecture.

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FACULTY OF BUSINESS MANAGEMENT
IMBA V – SEMESTER REGULAR EXAMINATIONS, DEC- 2017
FINANCIAL MATHEMATICS
PAPER – II

Time: 3 Hours]

[Max. Marks: 70
(5x3=15)Section – AAnswer any five of the following question in not more than **ONE** page each

1. a) Index linked security
- b) Compound Interest
- c) Capital gain
- d) Arbitrage
- e) Hedging
- f) Fixed Cash Income
- g) Government Bills
- h) Derivatives

Section – B

(5x8=40)

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

2. a) Explain the process of Computing the Present and Future Value of Rupee.
(OR)
- b) If $A = \text{Rs.}2000$, $n = 5$ years, and $r = 12\%$, what is the future value?
3. a) Explain about the consumer credit's importance.
(OR)
- b) If coupon rate is 10% p.a. and floating charges are Rs.30 for a bond issued with a face value of Rs.500, Compute the APR.
4. a) Discuss the Advantages of NPV and IPR and explain the why IPR is better than NPV?
(OR)
- b) From the following details compute PBP, ARR and NPV.

Particulars	Cash flow of Project A (Rs.)	Cash flow of Project B (Rs.)
Capital outlay	20,000	24,000
Net cash flows:		
1 st year	10,000	15,000
2 nd year	2,000	8,000
3 rd year	2,000	6,000
4 th year	4,000	2,000
5 th year	5,000	3,000

5. a) Discuss the Concepts of Discrete and Continuous Cash Flows.
(OR)
- b) From the following information calculate the price of a Forward Contract.

Price of the Share : Rs.500
Time to Expiration : 6 months
Dividend Expected : Rs. 2.50 per share
Time to Dividend : 4 months
Risk Free Rate of Return : 10% p.a.

[PTO]

6. a) Discuss about innovative financial instrument in a brief manner.

(OR)

b) Explain the purpose and advantages of Treasury bill.

Section – C (Compulsory)

(1x15=15)

Present value of a share is Rs.120.

Risk free interest rate is 8%p.a.

A forward contract is written on the share for 3 months. Compute the forward value.

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

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. Private closed economy.
2. Relative income hypothesis.
3. Capital and investment.
4. High powered money.
5. Speculative demand for money.

Section – B

(5x10=50)

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

6. a) Explain graphically the circular flow of income and expenditure in a four sector model.

(OR)

- b) Illustrate the input-output accounting of utilized income.

7. a) Compare and contrast between absolute and relative income hypothesis.

(OR)

- b) Critically evaluate the life cycle hypothesis of consumption.

8. a) Describe the financial theory of investment.

(OR)

- b) Illustrate how MEC determines the level of investment.

9. a) Critically evaluate the RBI approach to money supply.

(OR)

- b) Illustrate the money supply multiplier.

10. a) Critically examine the Fisher's quantity theory of money.

(OR)

- b) Explain cash balance approach. In what respects is it superior to the classical theory of demand for money.

FACULTY OF SCIENCE
M.Sc. (PCH-5YIPGP) VII-SEMESTER REGULAR EXAMINATIONS, DEC-2017
PRINCIPLES OF DRUG DISCOVERY
PAPER – II

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. Explain enzyme inhibition in drug discovery.
2. Explain Bioisosterism in drug design.
3. Write the minimal topological difference method.
4. Explain about eutomer, distomer, eudesmic ratio with examples.
5. Write about serendipitous discovery of leads.

Section – B

(5x10=50)

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

- 6 a) Discuss the discovery of Leads from natural products.
(OR)
b) Discuss the clinical trials in drug discovery.
- 7 a) Write the SAR of Barbiturates and Benzodiazepines.
(OR)
b) Explain the discovery of
i) Salbutamol ii) Captopril
- 8 a) Write the QSAR Parameters.
(OR)
b) Explain i) Craig's Plot ii) Topliss Scheme
- 9 a) Discuss various methods in parallel synthesis.
(OR)
b) Outline the synthesis of i) Ramipril ii) (s)-Ibuprofen
iii) (2s,3s) Diltiazem iv) Atenolol.
- 10 a) Write note on
Principles of Prodrug design.
(OR)
b) Discuss the principles of molecular modeling.

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FACULTY OF BUSINESS MANAGEMENT
IMBA VII – SEMESTER REGULAR EXAMINATIONS, DEC- 2017
MANAGERIAL ECONOMICS
PAPER – II

Time: 3 Hours]

[Max. Marks: 70

Section – A

(5x3=15)

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

1. Risk and uncertainty
2. Delphi method
3. CVP analysis
4. Oligopoly
5. Nash Equilibrium

Section – B

(5x8=40)

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

6. a) Explain the opportunity cost concept. How is it useful to the Managerial Economist in Business decision making?
(OR)
b) Explain the role and functions of a Managerial Economist in Business.
7. a) What is meant by Demand function, Demand schedule and Demand curve? Explain the important determinants of demand.
(OR)
b) What are the different Survey Demand Forecasting Methods that are usually used by Indian Managers?
8. a) How does a producer attain Equilibrium? Illustrate with the help of Isoquants.
(OR)
b) Discuss how the different Economies Managed by the Managers.
9. a) Explain the features of Monopolistic. How price and output decisions are taken under the monopolistic competition?
(OR)
b) What do you mean by Price Discrimination using Coupons and Rebates? Explain with examples.
10. a) What is Game theory? Explain infinitely repeated games and finitely repeated games briefly.
(OR)
b) Discuss the applications of Game Theory for formulating strategies by firms in Oligopoly.

Section – C (Compulsory)

(1x15=15)

A garden nursery manager is exploring a wide variety of planting opportunities. He has a fixed acreage of land and is facing the problem of determining which plants to propagate and grow. What ages to assume in such choices, what future prices should be assumed as well as what prices to charge now on plants which are already matured. In addition, the nursery must determine when to mark down prices on plants lying up land needed for other uses and when to destroy the plant materials that are in the way. In solving his problems, he wants to apply the three kinds of reasoning namely, incremental, discounting and opportunity cost. Comment on his approach to the solution of his problems. Examine clearly his difficulties of applying the above-mentioned threefold reasoning and also indicate the limitations of each of the reasoning.

FACULTY OF SOCIAL SCIENCES
M.A. (APE: 5-YIPGP) IX – SEMESTER REGULAR EXAMINATIONS, DEC-2017
ECONOMICS OF GROWTH AND DEVELOPMENT-I
PAPER – II

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. Per capita income.
2. Laissez faire policy.
3. Meade conditions of steady growth.
4. Distinguish between subsistence and capitalist sector.
5. Forward and backward linkage effect.

Section – B

(5x10=50)

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

6. a) Explain the different methods to measure the economic development.
(OR)
b) Explain the construction of HDI and PQLI.
7. a) Critically evaluate the Karl Marx's theory of growth.
(OR)
b) Explain Malthus theory of growth.
8. a) Explain Harrod-Domar model.
(OR)
b) Bring out the role of human capital in economic development.
9. a) Critically examine "Big-push" theory.
(OR)
b) Critically evaluate Leibenstein's theory of critical minimum effort.
10. a) Compare and contrast balanced and unbalanced growth. Which of the two, will you prefer for a developing country like India.
(OR)
b) Bring out the importance of choice of techniques in economic development.

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FACULTY OF SCIENCE
M.Sc. (PCH-5YIPGP) IX-SEMESTER REGULAR EXAMINATIONS, DEC-2017
HETEROCYCLIC CHEMISTRY
PAPER – II

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. Discuss different types of strains in non aromatic heterocycles.
2. Discuss any two synthetic methods of 1,2,3-triazoles.
3. Write the synthesis of Benzoazepines.
4. Write the synthesis of Caffeine.
5. Write the reactivity of benzimidazole.

Section – B

(5x10=50)

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

- 6 a) i) Discuss any two synthetic methods of acridines.
ii) Describe the properties of Azetidines.
(OR)
b) i) Write the synthesis and importance of oxetanes.
ii) Explain the synthesis of thiiranes.
- 7 a) i) Explain about synthesis and reactivity of 1,2,4-oxadiazoles.
ii) Write the synthesis of theobromine.
(OR)
b) i) Discuss the properties of tetrazoles.
ii) Discuss any two synthetic methods of 1,2,5-thiadiazoles.
- 8 a) i) Write the synthesis and rearrangements of Diazepines.
ii) Write about-synthesis and properties of azepines.
(OR)
b) i) Explain the synthesis of Tellurophenes.
ii) Write the synthesis and reactivity of Azocine.
- 9 a) i) Write the synthesis and reactivity of Quinolizines.
ii) Write a note on betaines?
(OR)
b) Discuss synthesis and aromaticity of sydnones.
- 10 a) i) Write the synthesis of Benzthiazoles.
ii) Explain the synthesis of Azonine.
(OR)
b) i) Discuss the synthesis and reactivity of purine.
ii) Write any one synthetic method of thietane.

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