SEE January-2024

No. of Pages:2	**Roll No.:**	**Max. Marks: 75M**
Time: 3 Hrs.	**No. of Questions: VIII**	**Pass Min. : 30M**

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I. క్రింది పద్యాలలో ఒకదానికి ప్రతిపదార్థ తాత్పర్యమును వ్రాయండి . **7M**

అ. "ఉత్తమ మధ్యమాధమ నియోగ్యత బుద్ధి నెఱింగి వారి న
య్యుత్తమ మధ్యమాధమ నియోగములన్ నియమించితే నరేం
ద్రోత్తమ! భృత్యకోటికి సమానముగా దగు జీవితంబు లా
యత్తముసేసి యిత్త దయ సయ్యయి కాలము దప్పకుండగన్"

ఆ. ధరణిపుచక్ర గట్టెదురు దక్కి పిఱుందును గాని యట్లు గా
నిరు గెలనం దగం గొలిచి యే మననో యెటు సూచనొక్కౖ యె
వ్వరిదిదెస నెప్పు దేతలప్పు వచ్చునో యాతనికంచు జూడ్కి సు
స్థిరముగం దన్ముఖంబునన చేర్చుచు నుండుట నీతి కొల్పునన్

II. క్రింది వానిలో <u>మూడింటికి</u> సందర్భ సహిత వ్యాఖ్యలు వ్రాయండి. **3 X 4 = 12M**

(అ) ఋణము లిత్తె యుత్తమ బుద్ధిన్.

(ఆ) ఏఁ గలుగ నీకు జనునే యలుగున్

(ఇ) చెప్పంగ వలయుఁ దగియొదు బుద్ధిల్

(ఈ) ధరణీసురుండెంతటి భాగ్యవంతుడో

(ఉ) చెప్పనేటికి నీవె చూచెదపు గాక.

III. క్రింది వానిలో <u>మూడింటికి</u> సంగ్రాహరూప సమాధానాలు వ్రాయండి. **3 X 4 = 12M**

(అ) సైనికులపట్ల, శత్రువుల పట్ల రాజు ఎలా వ్యవహరించాలి?

(ఆ) కోపంతో వున్న పరమేశ్వరునితో గణాధిపతులు ఏమని చెప్పారు?

(ఇ) ధౌమ్యుడు పాండవులకు ధర్మోపదేశం ఎందుకు చేశాడు?

(ఈ) శ్రీకృష్ణుడు బాల్యసఖుని ఆదరించిన విధానం తెలపండి.

(ఉ) త్రిజట తన స్వప్నాన్ని గురించి తోటి కావలికత్తెలతో ఏమని చెప్పింది?

IV. క్రింది వానిలో <u>మూడింటికి</u> వ్యాసరూప సమాధానాలు వ్రాయండి. **3 X 8 = 24M**

(అ) ప్రజా పాలనలో రాజులు పాటించవలసిన ధర్మాలేవి?

(ఆ) 'దక్షయజ్ఞం' పాఠ్యభాగ కథను వ్రాయండి.

(ఇ) ధౌమ్యుడు పాండవులకు చేసిన ధర్మోపదేశాన్ని వివరించండి.

(ఈ) పోతన 'మధురస్నేహం' ఘట్టాన్ని వర్ణించిన విధమును తెల్పండి.

(ఉ) సీతారావణ సంవాదాన్ని సంగ్రహంగా రాయండి.

V. క్రింది వానిలో మూడింటిని విడదీసి , సంధి కార్యములు వ్రాయండి.   3 X 2 = 6M

(1) దేవోత్తములు   (2) ఫణీంద్రుడు   (3) ఇట్లనిరి   (4) ఇక్కోమలి   (5) అత్యుగ్రము

VI. క్రింది వానిలో మూడింటికి విగ్రహ వాక్యాలు రాసి సమాస నామాలు వ్రాయండి.   3 X 2 = 6M

(1) భూపాల నందన   (2) వికృత వేషము   (3) ప్రసన్న చిత్తులు   (4)భీమార్జునులు   (5) దశ శిరములు

VII. (అ) క్రింది పద్యపాదాన్ని గణవిభజన చేసి యతిని గుర్తించి ఏ పద్య పాదమో తెల్పండి.   4M

'జలజ భవాండమంతయును జర్ఝరితం బగుచుండ ప్రచ్చిమున్'

లేదా

(ఆ) క్రింది వానిలో ఒక దానికి లక్ష్య, లక్షణ సమన్వయం చేయండి.

1) ఆటవెలది   2) ముత్యాల సరాలు   3) శార్దూలం

VIII. (అ) క్రింది పద్యములోని అలంకారమును గుర్తించి, లక్ష్య, లక్షణ సమన్వయం చేయండి   4M

వేట కాఱు ముట్టి వెనుకొనంగా శ్వేత

నగము చరికిందారు సమలి వోలె

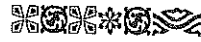సభ్ర గజము మీది కా సహస్రాక్షుండు

ప్రాకి పొతెఁ ప్రమథ రాజి యార్వ

లేదా

(ఆ) క్రింది అలంకారములలో ఒకదానికి లక్ష్య, లక్షణ సమన్వయం చేయండి.

(అ) ఉత్ప్రేక్షాలంకారము   (ఆ) లాటనుప్రాసాలంకారము

No. of Pages: 2

Roll No:

Max. Marks: 75M

Time: 3Hrs

Pass Min: 30M

No. of Questions: 13

PART-A

I निम्न लिखित प्रश्नों में से किन्हीं **पाँच** प्रश्नों का उत्तर दीजिए । 5x5=25

1. मित्र बनाते समय किन-किन बातों का ध्यान रखना चाहिए ?

2. सच्ची वीरता तथा झूठी वीरता का क्या अंतर है ?

3. साहित्य की जीवन में क्या आवश्यकता है ?

4. मुक्तिधन कहानी की विशेषताएँ बताइए ?

5. साई का चरित्र-चित्रण कीजिए ?

6. नीचे दिए गए शब्दों का वचन बदलिए ।

   i.विद्यार्थी   ii.कविता   iii.किताब   iv.लड़की   v.भाषा

7. काल की परिभाषा देते हुए उसकी प्रकारों का परिचय दीजिए ।

8. नीचे दिए गए शब्दों का लिंग बदलिए ।

   i.अध्यापक   ii.सुनार   iii.पंडित   iv.बूढ़ा   v.नायक

PART-B

II.निम्न लिखित सभी प्रश्नों का उत्तर दीजिए ।   5x10 = 50

9. मित्रता पाठ का सारांश लिखिए ।

(अथवा)

सच्ची वीरता पाठ का सारांश लिखिए ।

10. मुक्तिधन कहानी का सारांश लिखिए ।

(अथवा)

उसने कहा था कहानी का सारांश लिखिए ।

11.अ) किन्हीं पाँच शब्दों को अंग्रेजी से हिन्दी में अनुवाद कीजिए ।

   i. Absence   ii.Director   iii.Education Officer   iv. Incharge

   v. Governor   vi.Forest Officer   vii.General Manager

   viii.Translator   ix. PassPoot   X. Accountant

(अथवा)

आ) काल किसे कहते हैं तथा उनके प्रकारों का परिचय दीजिए ।

12.अ) किन्हीं पाँच शब्दों का विलोम शब्द लिखिए ।

   i. आदान   ii. जीवन   iii. कृतज्ञ   iv. रक्षक   v. निन्दा

   vi.देना   vii. नया   viii.वीर

(अथवा)

आ) वाक्य शुद्धी कीजिए ।

   i. राम किससे रुपया पूछा ?

   ii. मैं बाजार जाता है ।

   iii. तुम कहाँ जाता है ?

   iv. मोहन ने एक गाय लाया ।

   v. चोरी कौन किया ?

13. किसी यात्रा के बारे में वर्णन करते हुए अपने मित्र के नाम एक पत्र लिखिए ।

(अथवा)

जन्म दिन के शुभ अवसर पर पाँच सौ रुपये माँगते हुए अपने पिताजी को एक पत्र लिखिए ।

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2

SECTION – A

Answer any **FOUR** of the following questions.   4x5=20M

1.	Cell Theory	-	కణ సిద్ధాంతం
2.	Hetero chromatin	-	హెటిరో క్రోమాటిన్
3.	Dihybrid cross	-	ద్వి సంకర సంకరణం
4.	Test-cross	-	పరీక్ష సంకరణం
5.	M RNA	-	M RNA
6.	Translation	-	అనువాదం
7.	RAPD	-	RAPD
8.	Hybridization	-	సంకరీకరణం

SECTION – B

Answer any **FIVE** of the following.   5x10=50M

9. Write a brief account on ultra structure of cell membrane and its various theories.
కణత్వచం యొక్క నిర్మాణాన్ని మరియు వివిధ సిద్ధాంతాలను క్లుప్తముగా వ్రాయండి.

10. Give a brief account on ultra structure of chloroplast.
హరితరేణువు యొక్క నిర్మాణాన్ని గురించి క్లుప్తంగా వ్రాయండి.

11. Write an essay on chromosomal Aberrations.
క్రోమోసోమల్ సంక్షిప్తకరణ పై ఒక వ్యాసం వ్రాయండి.

12. Explain the Mendel's law of inheritance.
మెండల్ యొక్క వారసత్వ నియమాన్ని వివరించండి.

13. Write an account on gene interaction?
జన్యు పరస్పర చర్యను క్లుప్తంగా వ్రాయండి.

14. Discuss about the Genetic code.
జన్యు సంకేతం గురించి చర్చించండి.

15. Types and Functions of RNA.
RNA యొక్క రకాలు మరియు విధులు.

16. Write an essay on plant introduction.
మొక్కల పరిచయం పై ఒక వ్యాసం వ్రాయండి.

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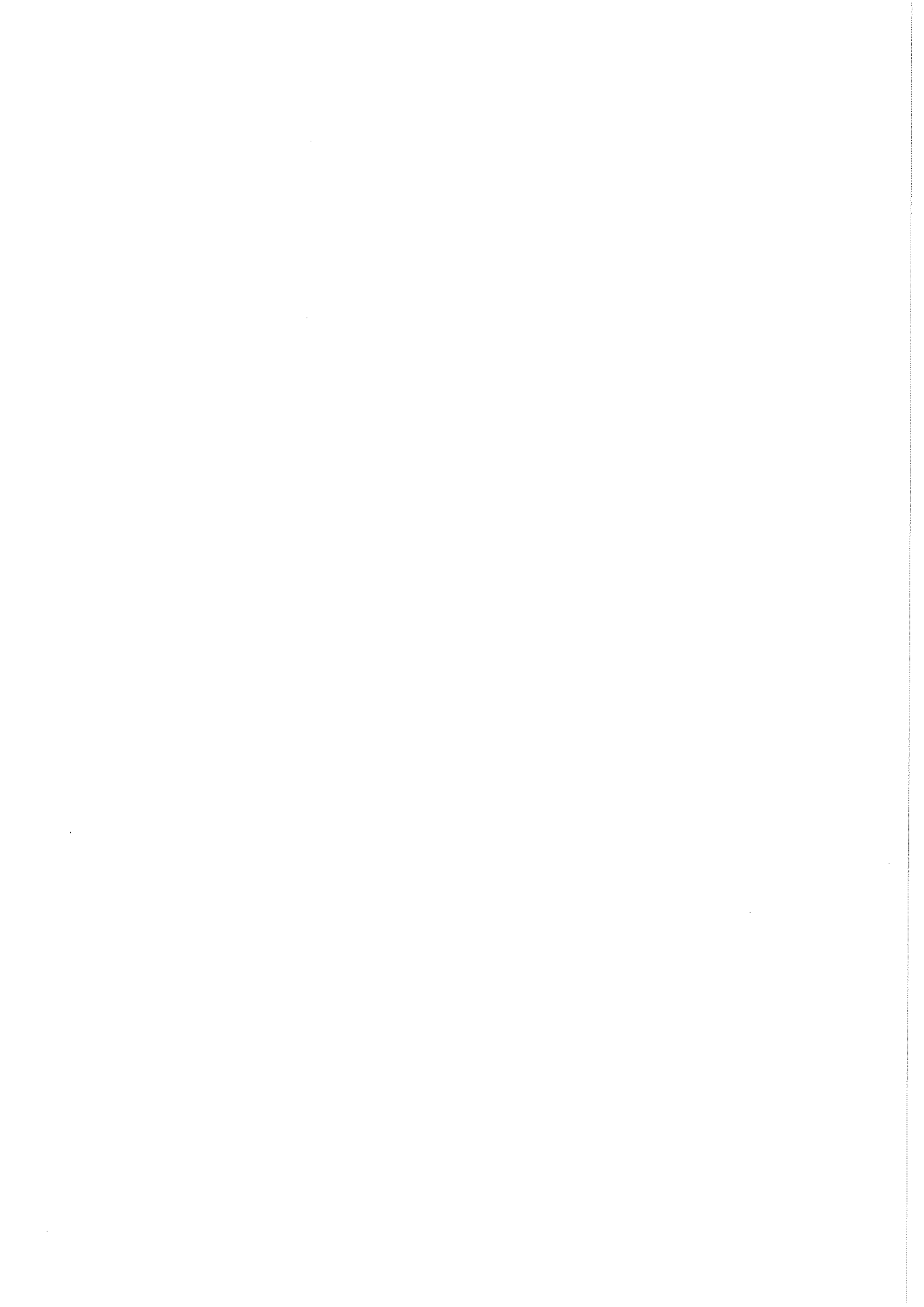
No. of Pages : 02 | Question Paper | No. of Questions : 16

Course Code (s) :.........31, 51, 53............ | SEM - IV | DD/MM/YY : | 3 | 1 | 0 | 1 | 2 | 0 | 2 | 4 |

Subject :...........MATHEMATICS.................. | Paper Code :......MAT - 402...... | Min Marks : 28

Title of the Paper : ....**Linear Algebra**...

Time : 3:00 Hrs. | Regd. No : | | | | | | | | | Max Marks : 70

SECTION – A

Answer any **FOUR** of the following questions.   4x5=20M

Choosing atleast **ONE** question from each part.

PART - I

1. If α, β, γ are Linearly independent vectors of a vector space $V(F)$, then prove that $\alpha + \beta, \beta + \gamma, \gamma + \alpha$ are also linearly Independent.

   సదిశాంతరాళము $V(F)$, యొక్క సదిశలు α, β, γ లు ఋజు స్వతంత్ర్యాలు అయితే $\alpha + \beta, \beta + \gamma, \gamma + \alpha$ లు కూడా ఋజు స్వతంత్ర్యాలు అని చూపుము.

2. Show that the vactors $(1,2,1), (2,1,0), (1,-1,2)$ from a basis $R^3(R)$.

   $R^3(R)$ నకు $(1,2,1), (2,1,0), (1,-1,2)$ సదిశలు ఆధారము ఏర్పరచునని చూపండి.

3. If $U(F)$ & $V(F)$ are two vectors and $T:U \to V$ is linear transformation then show that null space $N(T)$ is subspace of $U(F)$.

   $U(F)$ మరియు $V(F)$లు రెండు సదిశాంతరాళాలు మరియు $T:U \to V$ ఒక రేఖీయ పరివర్తన అయితే శూన్యాంతరాళము $N(T)$ అనునది $U(F)$కు ఉపాంతరాళము అని చూపండి.

4. Let $T:V_3(R) \to V_2(R)$ is define as $T(x,y,z) = (x-y, x+z)$ prove that T is linear transformation.

   $T:V_3(R) \to V_2(R)$ ప్రమేయాన్ని $T(x,y,z) = (x-y, x+z)$ గా నిర్వచిస్తే T ఒక రుజు పరివర్తనము అని చూపుము.

PART - II

5. Find the rank of the matrix $\begin{bmatrix} 1 & 2 & 1 \\ -1 & 0 & 2 \\ 2 & 1 & -3 \end{bmatrix}$

   $\begin{bmatrix} 1 & 2 & 1 \\ -1 & 0 & 2 \\ 2 & 1 & -3 \end{bmatrix}$ మాత్రిక యొక్క కోటిని కనుగొనుము.

6. Find the characterstic roots of the matrisx $A = \begin{bmatrix} 2 & 1 & 0 \\ 0 & 2 & 1 \\ 0 & 0 & 3 \end{bmatrix}$

   $A = \begin{bmatrix} 2 & 1 & 0 \\ 0 & 2 & 1 \\ 0 & 0 & 3 \end{bmatrix}$ మాత్రిక యొక్క లాక్షణిక మూలాలు కనుగొనుము.

7. State and prove Triangular Inequality.

   త్రిభుజ అసమానతను ప్రవచించి, నిరూపణ చేయండి.

8. State and prove Parallelogram Law

   సమాంతర చతుర్భుజ నియమము ప్రవచించి, నిరూపించుము.

SECTION – B

Answer any **FIVE** of the following questions.   **5x10=50M**

Choosing atleast **TWO** questions from each part.

PART - I

9. Show that the necessary and sufficient conditions for non-empty subset W of a vector space $V(F)$ to be a subspace of V is that $a,b \in F, \alpha, \beta \in W \Rightarrow a\alpha + b\beta \in W$.

సదిశాంతరాళం $V(F)$ యొక్క శూన్యతర ఉపసమితి W ఒక ఉపసదిశాంతరాళం కావడానికి ఆవశ్యక, పర్యాప్తక నియమము $a,b \in F, \alpha, \beta \in W \Rightarrow a\alpha + b\beta \in W$.

10. If W_1 and W_2 are two subspaces of a finite dimensional vector space V(F) then prove that $\dim(W_1 + W_2) = \dim W_1 + \dim W_2 - \dim(W_1 \cap W_2)$.

$V(F)$ అనే ఒక పరిమితి సదిశాంతరాళమునకు W_1 మరియు W_2 లు రెండు ఉపాంతరాళములు అయితే $\dim(W_1 + W_2) = \dim W_1 + \dim W_2 - \dim(W_1 \cap W_2)$.

11. State and Prove Rank - Nullity theorem.

కోటి శూన్యత సిద్ధాంతమును నిర్వచించి, నిరూపించుము.

12. If $T : R^3 \to R^3$ is defined by $T(a,b,c) = (3a, a-b, 2a+b+c)$ then show that $(T^2 - I)(T - 3I) = 0$.

$T : R^3 \to R^3$ ప్రమేయమును $T(a,b,c) = (3a, a-b, 2a+b+c)$ గా నిర్వచిస్తే $(T^2 - I)(T - 3I) = 0$ అని చూపుము.

PART - II

13. State and prove Cayley-Hamilton theorem.

కేలి హేమిల్టన్ సిద్ధాంతమును ప్రవచించి, నిరూపించుము.

14. Find the Eigen values and the Corresponding Eigen vectors of a matrix $A = \begin{bmatrix} 6 & -2 & 2 \\ -2 & 3 & -1 \\ 2 & -1 & 3 \end{bmatrix}$

$A = \begin{bmatrix} 6 & -2 & 2 \\ -2 & 3 & -1 \\ 2 & -1 & 3 \end{bmatrix}$ మాత్రిక యొక్క ఐగెన్ విలువను మరియు ఐగెన్ సదిశలను కనుగొనుము.

15. State and Prove Bessel's Inequality.

బెస్సెల్స్ అసమానతను ప్రవచించి, నిరూపించుము.

16. Construct an orthonormal basis of R^3 using Gram-Schmidt orthogonalisation process from $\beta = \{(2,1,3),(1,2,3),(1,1,1)\}$

$\beta = \{(2,1,3),(1,2,3),(1,1,1)\}$ నుంచి గ్రామ్–ష్మిడ్ లంభీకరణ పద్ధతిని ఉపయోగించి R^3 నకు లంభాభిలంబ ఆధారాలను నిర్మించండి.

AG & SG Siddhartha Degree College of Arts & Science (AUTONOMOUS)
VUYYURU - 521 165.

| No. of Pages : 01 | Question Paper (w.e.f. 2019 Batch) | No. of Questions : 14 |

Course Code (s) :............53................ SEM - V   DD/MM/YY : 3 1 0 1 2 0 2 4

Subject :..........COMPUTER SCIENCE.......... Paper Code :.........CSC - 501.......... Min Marks : 28

Title of the Paper : ....Data Base Management Systems..............

Time : 3:00 Hrs.   Regd. No :   Max Marks : 70

SECTION – A

Answer any **FOUR** questions. Each question carries **FIVE** marks.   **4x5=20M**

1.   Explain the objectives of DBMS.

2.   What are the components of Database system?

3.   What are the different types of integrity rules in DBMS?

4.   Explain the BCNF.

5.   Explain join operators in SQL.

6.   Explain stored procedures.

SECTION – B

Answer any **FIVE** questions. Each question carries **TEN** marks.   **5x10=50M**

7.   Explain the classification of DBMS.

8.   Explain the Degree of Data Abstraction.

9.   Briefly explain the codd's relational database.

10.   Explain the basic Building Blocks of E.R Model.

11.   Explain Normalization. Describe the various steps to process the Normalization.

12.   Explain the difference between centralized Vs decentralized design.

13.   Explain DDL commands and DML commands with syntax and examples.

14.   Define Trigger? Explain the different types of triggers.

E Governance

No. of Pages: 01	Roll No:	Max. Marks: 75M
Time: 3 Hrs	No. of Questions: 13	Pass Min.: 30M

****

Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Explain the objectives of E – Governance.
2. Write a note on National Informatics Center.
3. Briefly explain cloud – governance.
4. Explain the importance of direct transfer of benefits.
5. Bring out the importance of cyber security in cyber crimes.
6. Explain the issues of integration.
7. Real time Governance (RTG).
8. CARD.

Section B

Answer the following: 5 x 10 = 50M

9. a) Define E – Governance. Explain its nature and scope.

   or

   b) What is E – Governance? Explain the domains of E – Governance.

10. a) Critically evaluate the strategies for E - Governance

    or

    b) Elucidate the importance of National E – Governance Plan (NEGP).

11. a) Bring out the essential components for ICTA (Information Technology Act) implementation in administration.

    or

    b) Critically evaluate effective delivery of services for public utilities through E – Governance.

12. a) Explain the E – Governance projects and initiatives E – Booming and E – Panchayat.

    or

    b) How transparency and accessibility are essential in E – Governance.

13. a) Explain the major E – Governance projects in India.

    or

    b) Discuss the role of information and communication technology in administration.

* * *
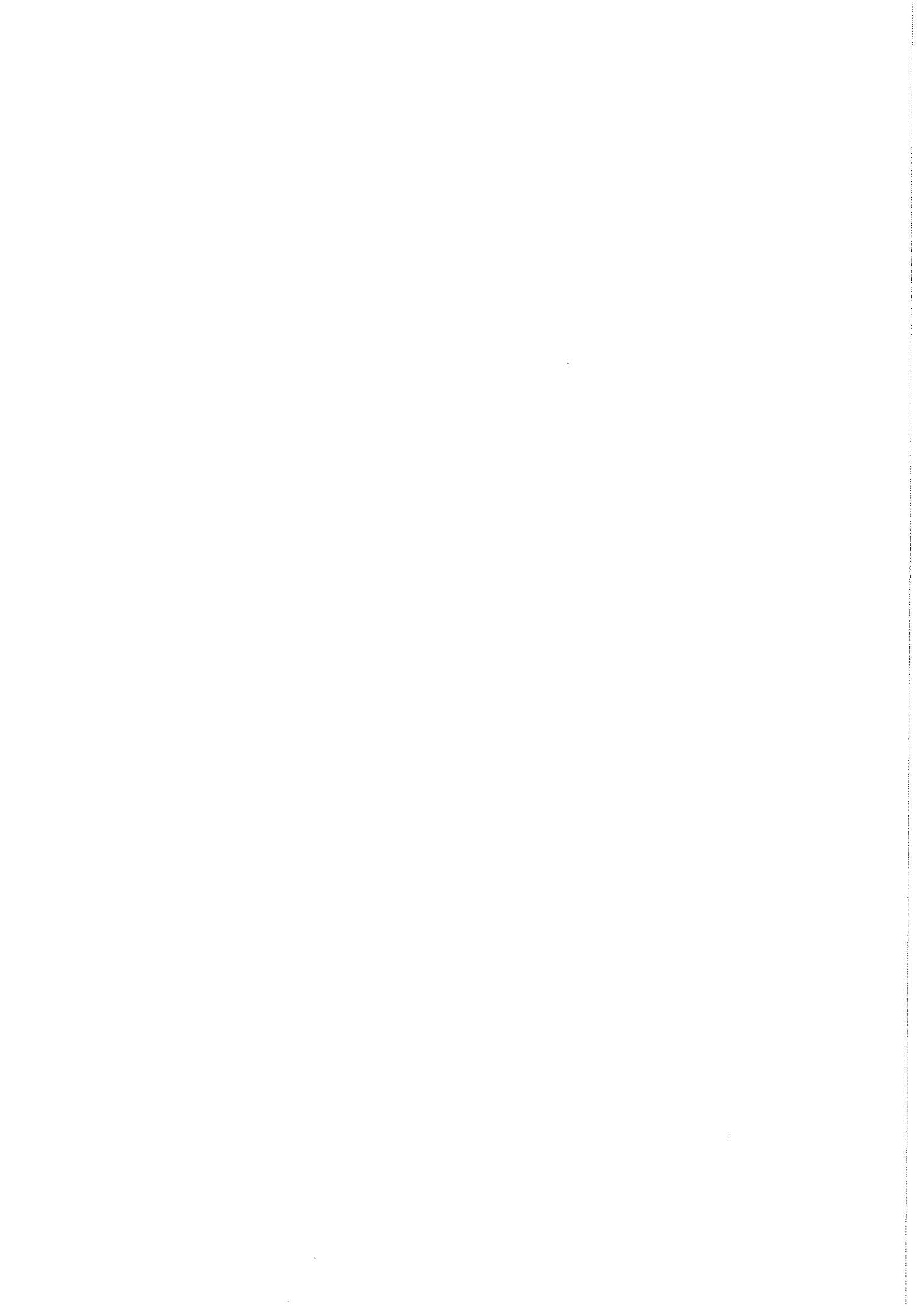
ADVERTISING AND MEDIA PLANNING

No. of Pages: 01   Roll No: Max. Marks: 75M
Time: 3 Hrs   No. of Questions: 13   Pass Min.: 30M

****

Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Nature of Advertising.
2. Advertising as a marketing tool.
3. Types of advertising agencies.
4. Creative thinking.
5. Types of Advertising Media.
6. Selection of Media.
7. Types of Media Strategies.
8. Target Market Analysis.

Section B

Answer the following: 5 x 10 = 50M

9. a) What is advertising? Explain the nature and scope of advertising.

   or

   b) Write about process for promotion of business development.

10. a) What is advertising agencies? Explain the types of advertising agencies.

    or

    b) Explain advantages and objectives of DAGMAR approach.

11. a) Explain the process of advertising.

    or

    b) Explain the importance and techniques of copy testing.

12. a) Explain the different types of media.

    or

    b) Explain the factors that are affecting selection media.

13. a) What is media choice? Explain the factors influencing media choices.

    or

    b) Discuss about timing and frequency content media strategy.
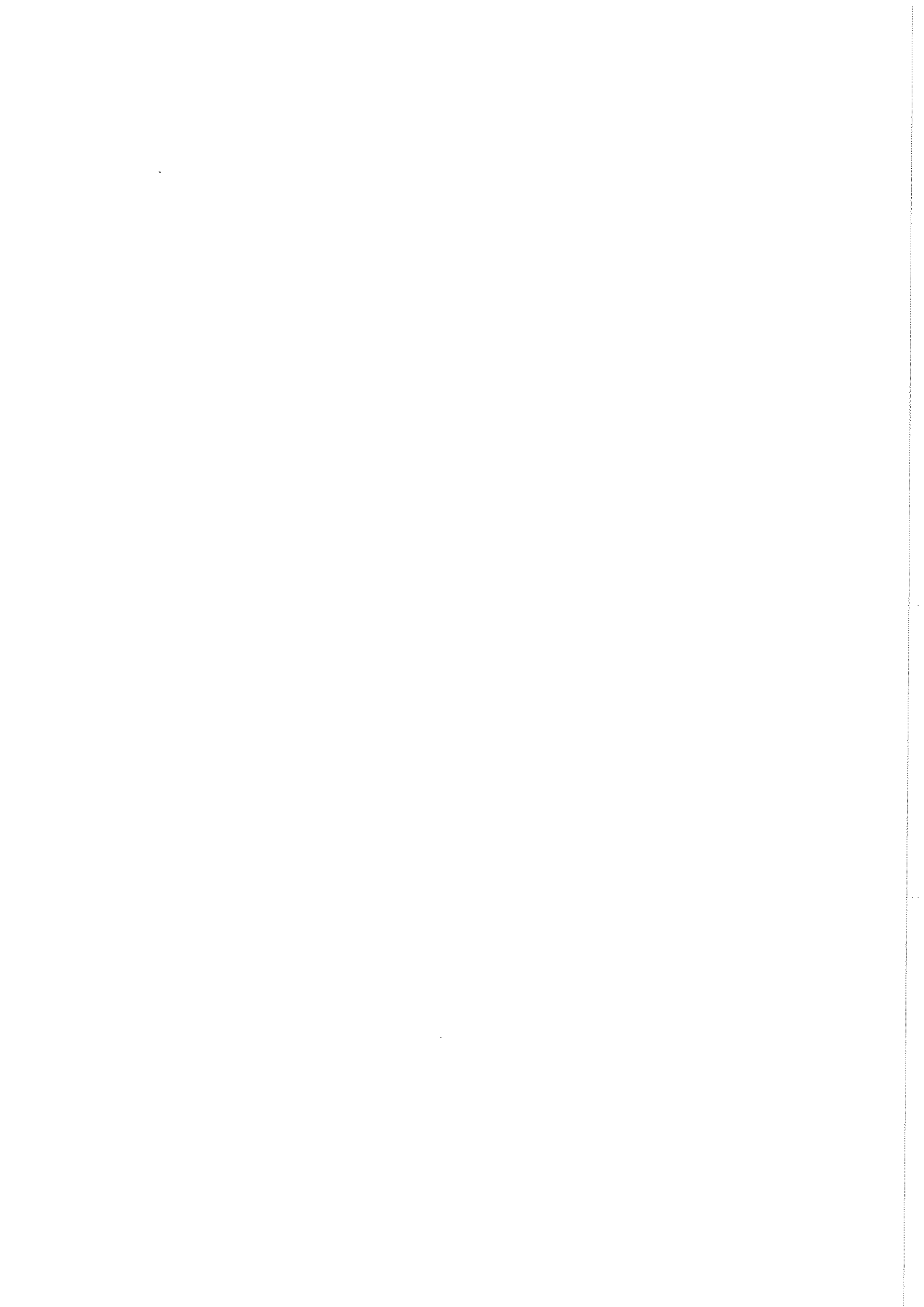
* * *

1

No. of Pages: 02	**Roll No:**	**Max. Marks: 75M**
Time: 3 Hrs	**No. of Questions: 13**	**Pass Min.: 30M**

****

Section A

Answer any FIVE of the following: **5 x 5 = 25M**

1. What are the characteristics of a good model for O.R?
2. Explain mathematical formulation of L.P.P.
3. Define L.P.P and explain general linear programming problem.
4. Explain slack variables and surplus variables.
5. Define transportation problem and it's assumptions.
6. Explain the procedure of matrix minimum method.
7. Explain transshipment problem.
8. Explain mathematical formulation of assignment problem.

Section B

Answer the following: **5 x 10 = 50M**

9. a) Discuss the various phases in solving an OR problem.

    or

    b) Use the graphical method to solve the following L.P.P.
    $$Max\, Z = 45X_1 + 80X_2$$
    $$Subject\ to\ constraints : 5X_1 + 20X_2 \leq 400$$
    $$10X_1 + 15X_2 \leq 450$$
    $$and\ X_1, X_2 \geq 0$$

10. a) Explain the simplex algorithm of solve an L.P.P.

    or

    b) Solve the following LPP using simplex method.
    $$Max\ Z = 5X_1 + 3X_2$$
    $$Subject\ to\ constraints : 3X_1 + 5X_2 \leq 15$$
    $$5X_1 + 2X_2 \leq 10$$
    $$and\ X_1, X_2 \geq 0$$

11. a) Solve the following LPP by using Big – M method.
    $$Max\, Z = 3X_1 - 2X_2$$
    $$Subject\ to\ constraints : X_1 + X_2 \leq 1$$
    $$2X_1 + 2X_2 \geq 4$$
    $$and\ X_1, X_2 \geq 0$$

    or

Operation Research - I

b) Explain the procedure for two – phase method to solve a LPP.

12. a) Define basic feasible solution and explain the procedure for Vogel's approximation method.

or

b) Obtain an optimum basic feasible solution to the following transportation problem.

$$
\begin{array}{c c c c c c}
 & D & E & F & G & a_i \\
A & 19 & 30 & 50 & 10 & 7 \\
B & 70 & 30 & 40 & 60 & 9 \\
C & 40 & 8 & 70 & 20 & 18 \\
b_j & 5 & 8 & 7 & 14 &
\end{array}
$$

13. a) Explain the procedure for Hungarian method.

or

b) Solve the following assignment problem.

$$
\begin{array}{c c c c c}
 & I & II & III & IV \\
A & 2 & 10 & 9 & 7 \\
B & 15 & 4 & 14 & 8 \\
C & 13 & 14 & 16 & 11 \\
D & 4 & 15 & 13 & 9
\end{array}
$$

* * *

APPLICATIONS OF ELECTRICITY AND ELECTRONICS

No. of Pages: 01   Roll No: Max. Marks: 75M
Time: 3 Hrs   No. of Questions: 13   Pass Min.: 30M
****

Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Explain Ohms law and give its limitations.
2. Discuss the applications of a capacitor in power supplies.
3. Discuss about any two types of batteries.
4. Compare the constant voltage and constant current sources.
5. Explain the use of transformer in regulated power supply.
6. Evaluate the power in side band frequencies.
7. Define FM and explain Modulation Index.
8. Calculate the power generated by a DC motor.

Section B

Answer the following: 5 x 10 = 50M

9. a) Derive an expression for the effective resistance when resistances are connected in   i) series and   ii) parallel.

   or

   b) Discuss the application of Resistor as heating element and as a fuse element.

10. a) Explain about the lead acid batteries.

    or

    b) State and prove Norton's Theorem with an equivalent circuit.

11. a) Explain the construction and working of an AC generator.

    or

    b) Distinguish between step up and step down transformers.

12. a) Construct the circuit of a Diode detector and explain its working.

    or

    b) With a neat circuit diagram, explain the working of a FM transmitter.

13. a) Describe the construction and working of a DC motor.

    or

    b) Design a step up (120v-240v) and step down (220v-12v) transformers and explain.

* * *
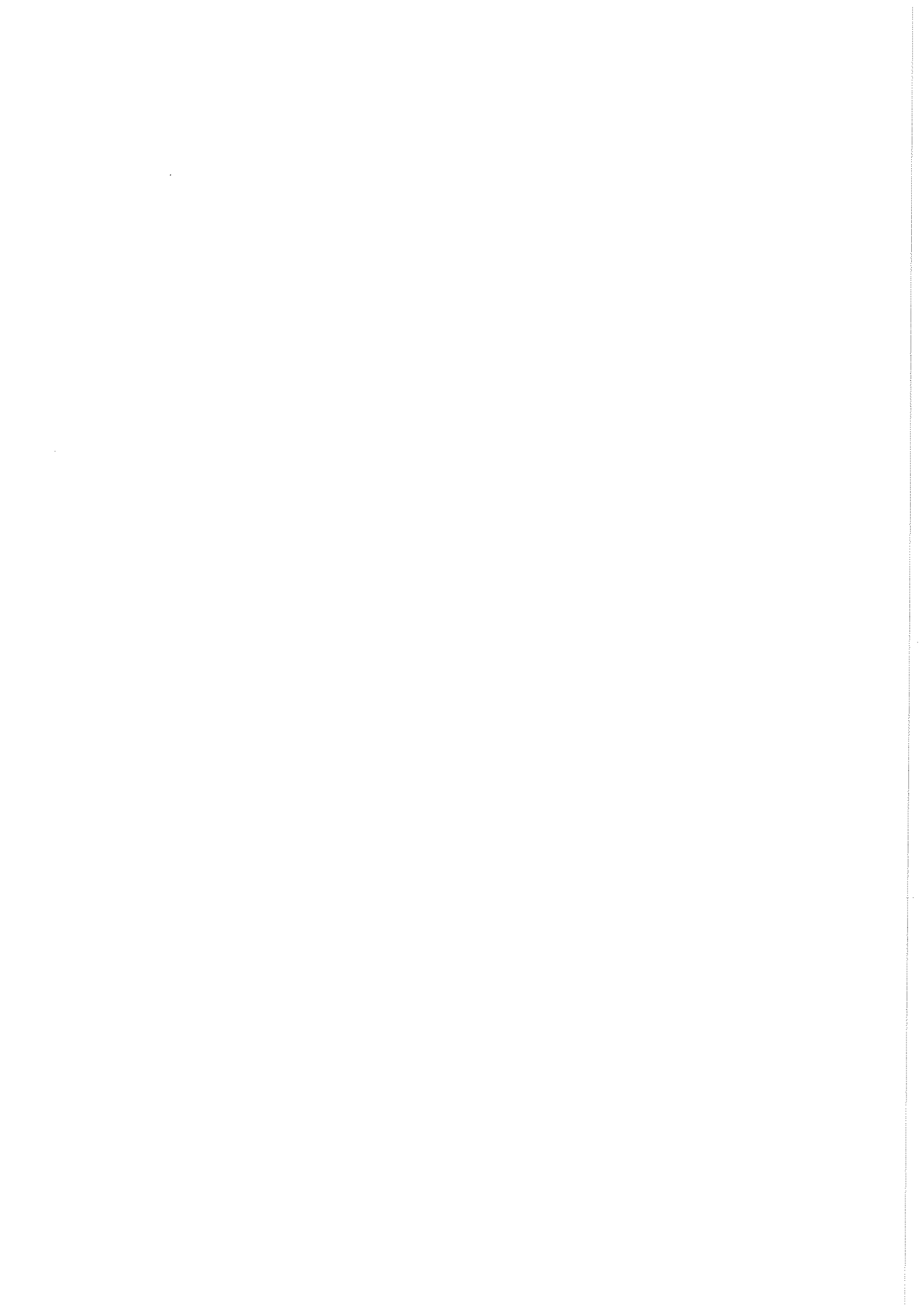
Sustainable Aquaculture: Management

No. of Pages:1	Roll No.:	Max. Marks: 75M
Time: 3 Hrs.	No. of Questions: 13	Pass Min. : 30M

Note : Draw neat labelled diagrams wherever necessary.

SECTION A

Answer any FIVE of the following: *5 x 5 = 25M*

1. Explain the present status of Aquaculture.

2. Illustrate fish culture practices and culture systems.

3. Classify fish culture ponds.

4. Role of chemical factors in Aquaculture.

5. Explain induced breeding in shrimp .

6. Explain post stocking management.

7. Explain process of seed production in M. rosenbergii.

8. Write about any two viral discuss in shell fish.

SECTION B

Answer the following: *5 x 10 = 50M*

9. a) Give a detailed account on cultivable fresh water fishes.
   OR
   b) Describe different fish culture systems.

10. a) Explain pond preparation in aquaculture .
    OR
    b) Describe the role of physico- chemical factors in culture pond.

11. a) Explain induced breeding in carps .
    OR
    b) Describe pre stocking management of Indian major carps.

12. a) State the commercial importance of shrimp .
    OR
    b) Explain mixed culture of fish and prawns.

13. a) Explain fungal diseases in fin fish.
    OR
    b) Describe Protozoan are Metazoan diseases of fin fish and shell fish.
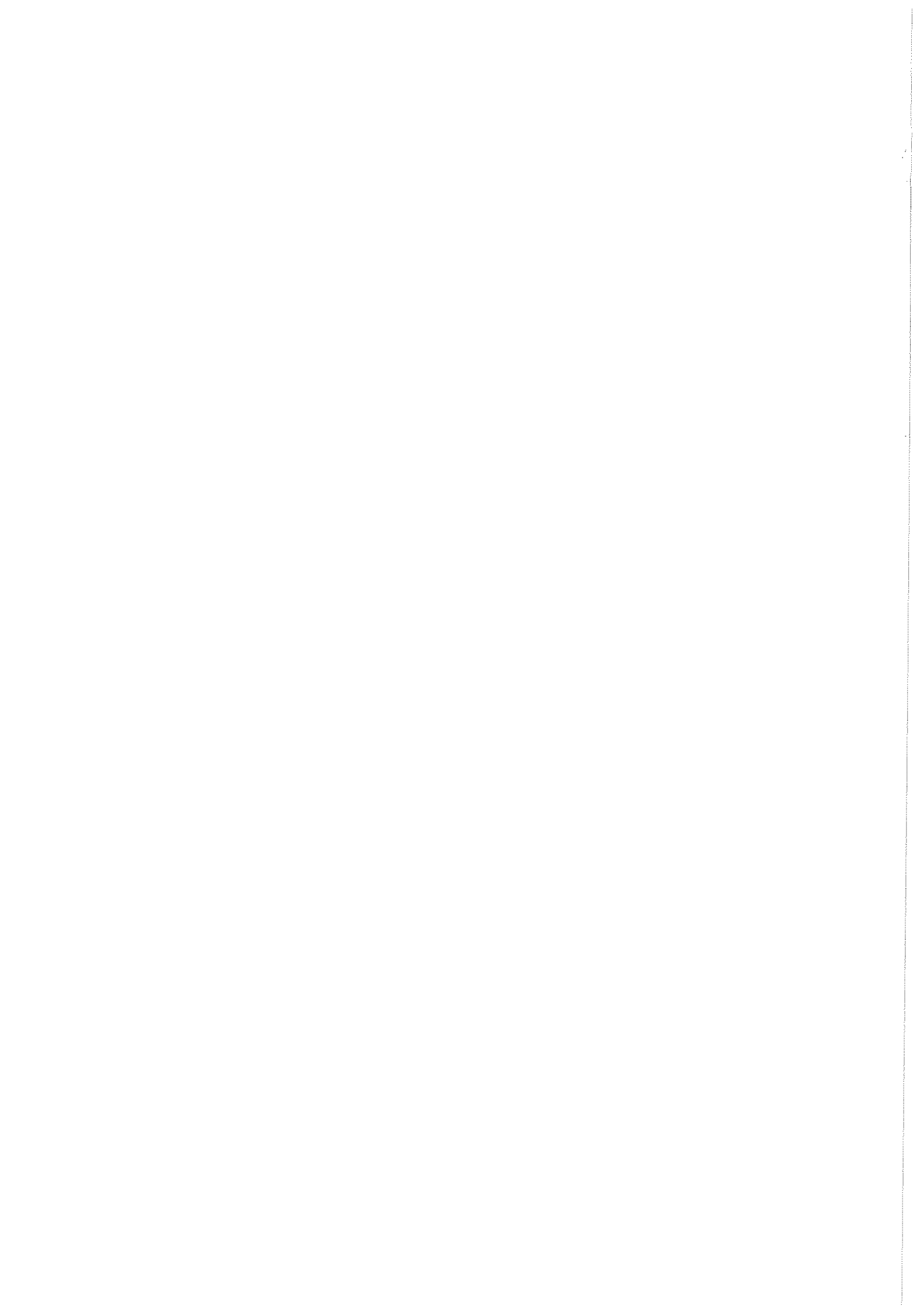
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Ancient Indian History & Culture from Indus Valley Civilisation to 13ᵗʰ century A.D.

No. of Pages: 01   Roll No: Max. Marks: 75M
Time: 3 Hrs   No. of Questions: 13   Pass Min.: 30M
****

Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Department of Archaelogy.
2. Briefly explain the society and economy of the Early Vedic Aryans.
3. Vardhamana Mahaveera.
4. Ashoka's Dhamma.
5. Gandhara sculpture.
6. Sangam literature.
7. Samudra Gupta.
8. Queen Rudrama Devi.
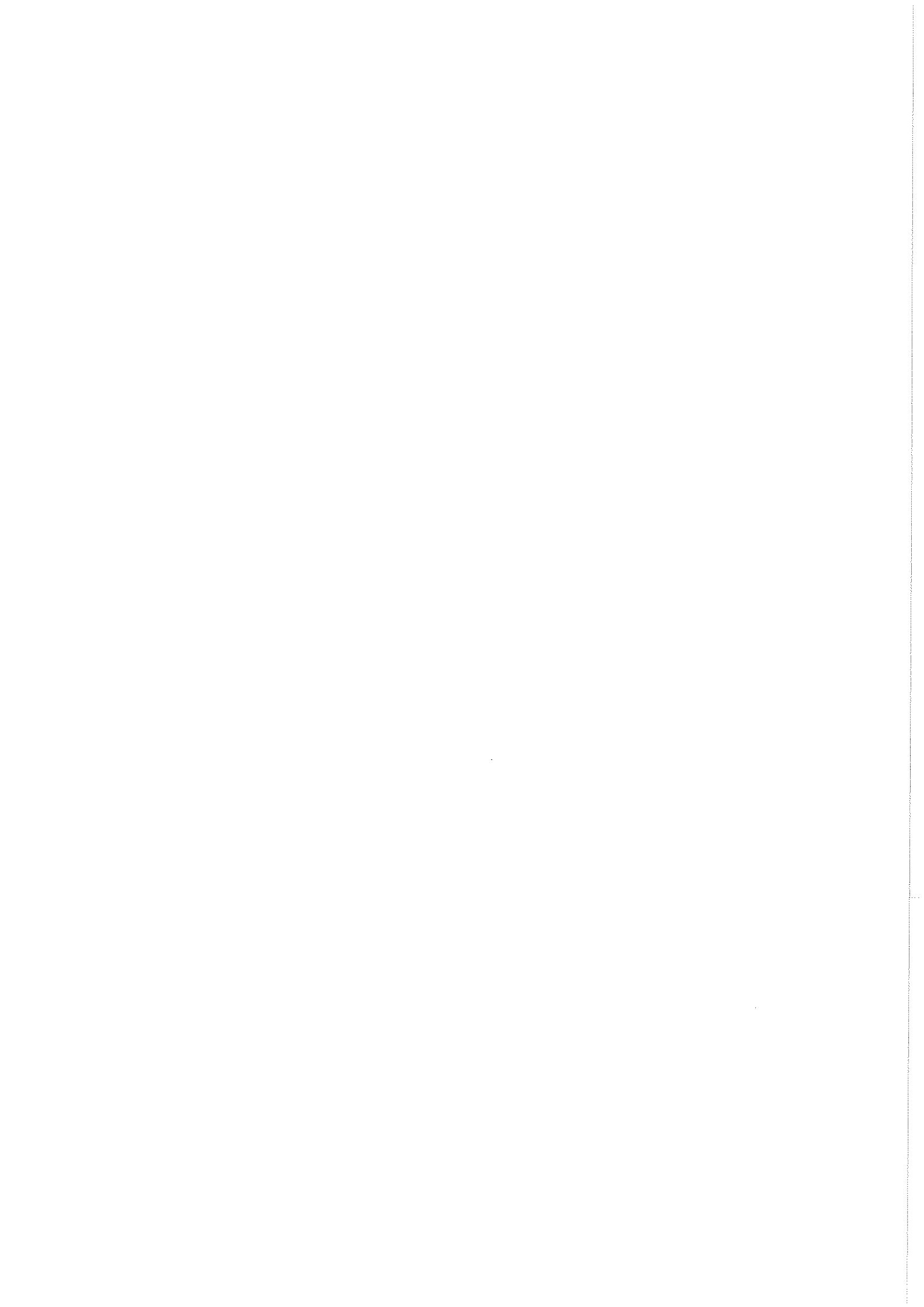
Section B

Answer the following: 5 x 10 = 50M

9. a) Write about the salient features of Indus Valley Civilisation.

    or

    b) Explain the political, social, economic and religious conditions of two later vedic Aryans.

10. a) Discuss the early life and teachings of Gautama Buddha.

    or

    b) Explain the Mauryans administrative system.

11. a) Write about the cultural contribution of the Andhra Satavahanas.

    or

    b) Describe the general conditions of Pallavas.

12. a) "Gupta age is golden age" how do you justify it.

    or

    b) Explain the achievements of Harsha Vardhana.

13. a) Write about the village administration of the Cholas.

    or

    b) Describe the contributions of Kakatiyas to Andhra Desa.

* * *

FUNDAMENTALS OF ACCOUNTING

| No. of Pages:04 | Roll No: | Max. Marks: 75M |
| Time: 3 Hrs | No. of Questions: 13 | Pass Min.: 30M |

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Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Scope of Accounting.
2. Explain various types of accounts and its rules.
3. Explain the words   a) Ledger   b) Journal.
4. Journal proper.
5. Distinguish between trade discount and cash discount.
6. Explain the term "Suspense Account".
7. Proforma of Trading Account.
8. Capital Expenditure and Revenue Expenditure.

Section B

Answer the following: 5 x 10 = 50M

9. A) What is meant by book keeping and accounting? Write the differences between book keeping and accounting.

or

B) Journalise the following transactions:

Jan 1	Sohan started business with a capital of Rs.1,00,000
2	Purchased furniture from Gayatri Furniture Co. Rs.2,000
3	Paid cash to Gayatri Furniture Co. Rs.2,000
4	Bought goods for cash Rs.3,000
5	Bought goods from Murali Rs.5,000
6	Goods sold to Rohan Rs.6,000
7	Goods sold for cash Rs.4,000
8	Cash deposited into bank Rs.2,000
9	Cash withdrawn from bank for personal use Rs.500
10	Cash withdrawn from bank for office use Rs.1,000
11	Rent paid to landlord Rs.1,000
12	Commission received Rs.5,00
13	Salary paid to Manohar Rs.3,000
14	Electricity bill paid Rs.700
15	Paid life insurance Rs.600

10.A) What is analytical petty cash book? What are its uses?

<div align="center">or</div>

B) Prepare a triple column cash book from the following transactions.

2021 March 1	Opening balance cash Rs.20,000 & bank Rs.10,000
2	Purchased goods for cash Rs.1,600
3	Sold goods to Yuvaraj for Rs.2,400 and received a cheque in return.
4	Yuvaraj cheque was deposited in Bank
5	Purchased office furniture by cheque Rs.1,000
6	Received a cheque from Munna Rs.4,600 and allowed discount Rs.100
17	Paid a cheque to Kittu Rs.3,200 received a discount of Rs.100
28	Cheque drawn for personal use Rs.1,000
29	Drawn for office use Rs.5,000
31	Rent paid by cheque Rs.1,000 and salaries paid in cash Rs.500

11.A) What is an error? Write different types of errors.

<div align="center">or</div>

B) The trial balance of Mitra Traders on 31-12-2021 did not agree, the debit side being in excess of the credit side by Rs.4,162. The trial balance was made to agree by placing the amount in "Suspense a/c" opened for the purpose. The following errors were found.

a) Returns outwards book was undercast by Rs.455

b) Repairs to buildings Rs.550 was debited to buildings a/c.

c) An advance of Rs.500 given to a supplier was posted to the credit side of his account. It was correctly entered in cash book.

d) A cheque for Rs.450 received from a customer and deposited into bank was wrongly entered in cash book as Rs.540. It was correctly posted in customer's a/c.

e) Purchase of Rs.390 was posted to suppliers a/c as Rs.930.

f) A cheque for Rs.400 received from Sobhan was dishonoured and passed to the debit of "Allowances a/c".

g) The total of sales book for the month of July was omitted to be posted to sales a/c Rs.5,157.

Prepare rectification entries and prepare suspense a/c.

12.A) Explain the causes for the distinction between cash book and pass book balance.

<div align="center">or</div>

B)   a) Balance as per cash book on 31/3/2021 Rs.30,000

b) Cheques issued Rs.9,000 before 31st March of which Rs.6,000 only are cashed before 31st March.

c) Out of cheques paid into bank Rs.16,600 before 31st March Rs.6,900 were collected by bank on 4th April.

d) Pass book contained entries for interest on bank balance Rs.1,000 and bank charges Rs.120 but not yet recorded in cash book.

e) The bank paid insurance premium Rs.1,600 and collected Rs.2,000 dividends on behalf of customer according to standing orders.

f) Cash book credit side is over added by Rs.200

Prepare Bank Reconciliation Statement as on 31st March 2021.

13.A) Give a specimen of Trading account and profit and loss a/c.

or

B) From the following Trial Balance of Rohaan as at 31st March 2021, prepare trading and profit and loss a/c for the year ended and a balance sheet as on that date.

Debit balance	Rs.	Credit balance	Rs.
Stock (1-4-2020)	45,000	Capital	75,000
Plant & machinery	75,000	Sales	4,20,750
Purchases	2,25,000	Sundry creditors	15,000
Trade charges	10,000	Discount	200
Carriage inwards	2,500	Bills payable	2,000
Carriage outwards	1,500		
Factory rent	1,500		
Discount	350		
Insurance	700		
Sundry debtors	60,000		
Office rent	3,000		
Printing & stationary	600		
Travelers salaries	2,800		
Advertising	15,000		
Bills receivable	6,000		
Drawings	6,000		
Salaries	15,000		
Wages	20,000		
Furniture	7,500		
Coal & gas	1,000		
Cash in hand	2,000		
Cash at bank	12,500		
	5,12,950		5,12,950

Closing stock on 31/3/2021 Rs.35,000

* * *

MATT11A/01-02-2024

DIFFERENTIAL EQUATIONS

No. of Pages: 2
Time: 3Hrs
No. of Questions: 13

Roll No:

Max. Marks: 75M
Pass Min: 30M
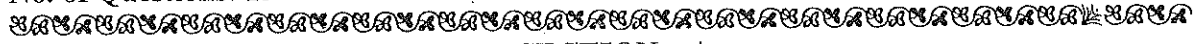
SECTION – A

Answer any FIVE of the following: $5 \times 5 = 25M$

1. Solve $(1+x^2)\dfrac{dy}{dx} + 2xy = 4x^2$.

2. Solve $\dfrac{dy}{dx} + \dfrac{ax+hy+g}{hx+by+f} = 0$.

3. Find the orthogonal trajectories of the family of curves $x^{2/3} + y^{2/3} = a^{2/3}$, where 'a' is the parameter.

4. Solve $P^2 - 5P + 6 = 0$.

5. Solve $(D^3 - 5D^2 + 8D - 4)y = e^{2x}$.

6. Solve $(D^2 - 4D + 4)y = x^3$.

7. Solve $(D^2 - 5D + 6)y = x\,e^{4x}$.

8. Solve $(x^2 D^2 + xD - 1)y = x^3$.

SECTION – B

Answer the following: $5 \times 10 = 50M$

9. (a) Solve $x^2 y\,dx - (x^3 + y^3)dy = 0$.

OR

   (b) Solve $x\dfrac{dy}{dx} + y = y^2 \log x$.

10. (a) Find the orthogonal trajectories of the family of curves in polar coordinates $r = \dfrac{2a}{1 + Cos\,\theta}$ where a is the parameter.

OR

(b) Solve $y + px = p^2 x^4$.

11. (a) Solve $(D^2 - 3D + 2)y = Cos\,hx$.

OR

(b) Solve $(D^2 - 4D + 3)y = Sin\,3x\,Cos\,2x$.

12. (a) Solve $(D^2 - 2D + 4)y = 8(x^2 + e^{2x} + Sin\,2x)$.

OR

(b) Solve $(D^2 + 2D + 1)y = x\,Cos\,x$.

13. (a) Solve $(D^2 + a^2)y = \tan\,ax$ by the method of variation of parameters.

OR

(b) Solve $(x^2 D^2 + 2xD - 12)y = x^3 \log x$.

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SEE January 24   **BOTT11A** / 1-02-2024

Fundamentals of Microbes and Non- Vascular Plants

No. of Pages:1   Roll No.:   Max. Marks: 75M
Time: 3 Hrs.   No. of Questions: 13   Pass Min.   : 30M

Note : Draw neat labelled diagrams wherever necessary.

SECTION A

Answer any FIVE of the following: *5 x 5 = 25M*

1. Pasteur's experiments on arise of organisms from pre-existing organisms.
2. Structure of Gemini virus.
3. Structure of Archaebacteria.
4. Disease cycle of Citrus Canker.
5. Internal structure of Lichen thallus.
6. Role of fungi in agriculture.
7. Structure of cell in *Spirogyra*.
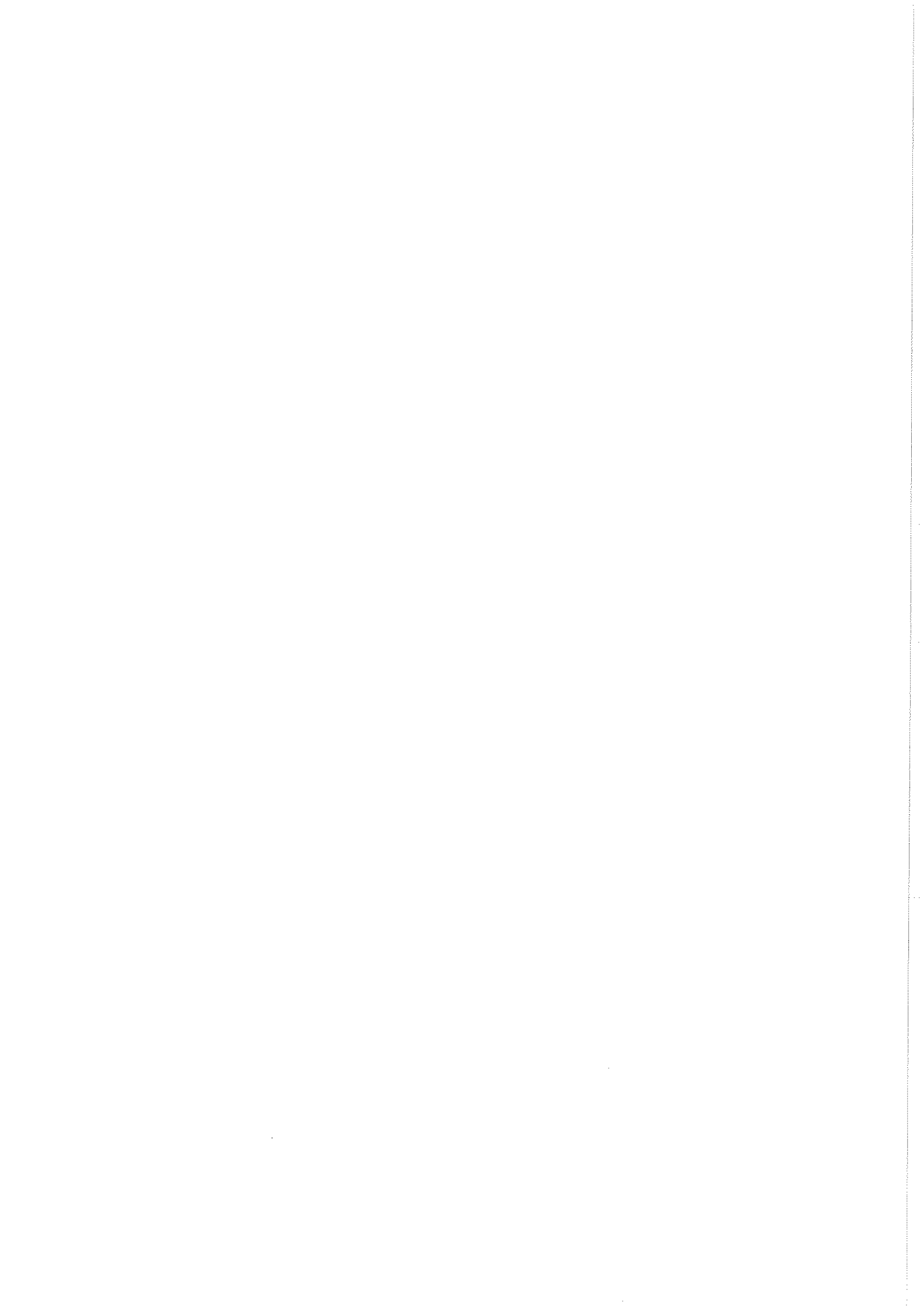8. Gemma cup of *Marchantia*.

SECTION B

Answer the following: *5 x 10 = 50M*

9. a) Discuss the mode of transmission of viruses in plants.
        OR
   b) Explain Whittaker's system of classification of organisms.

10. a) i) Write an account on asexual reproduction in bacteria.
        ii) Add a note on transduction.
        OR
    b) Describe the ultrastructure of a typical Bacterial cell.

11. a) Explain the sexual reproduction in *Rhizopus*.
        OR
    b) i) Detail the method of sexual reproduction in Lichens.
       ii) State the Economic importance of Lichens.

12. a) i) Outline the classification of Algae proposed by F.E. Fritisch.
        ii) Write the economic importance of algae.
        OR
    b) Describe the sex organs in *Polysiphonia*.

13. a) Describe the structure of capsule of *Funaria* .
        OR
    b) Detail structure of antheridiophore and archegoniophore of *Marchantia*.

*****

Ancient Indian History & Culture (from Indus Valley Civilisation to 13th Century A.D.)

No. of Pages: 01   Roll No: Max. Marks: 70M
Time: 3 Hrs   No. of Questions:10   Pass Min.: 28M
**

Section A

Answer the following:

1. a)   Bring out the salient features of Indus Valley Civilisation.   10M

   or

   b) Write about the changes you observe in the life of Aryans in their 10M
      transition from Rigvedic to later Vedic times.

2. a) Explain various vedic literature.   4M

    or

    b) Numasmatics as source material for the reconstruction of Indian
       History.   4M

3. a)   Give a detailed account of Mauryan Administration.   10M

   or

   b) Write about the factors responsible for religious protest movement of 6th
      Century B.C.   10M

4. a) Describe in details about Ashoka Dharma.   4M

    or

    b) Explain life and teachings of Buddha.   4M

5. a)   Explain Satavahana's Administration System.   10M

   or

   b) Briefly explain about Cholas village administration.   10M

6. a) Explain about Sangam age.   4M

    or

    b) Write about Gowthami Putra Satakarni.   4M

7. a)   Why the Gupta period is called "The Golden Age".   10M

   or

   b) Explain the causes and results of the Arab Invasion.   10M

8. a) Write the greatness of Samudra Gupta.   4M

    or

    b) Estimate the achievements of Harshavardhana.   4M

9. a)   Write about the administration system of Kakatiyas period.   10M

   or

   b) Write the cultural contribution of the Pallavas.   10M

10. a) Explain the role of Rudrama Devi.   4M

     or

     b) Discuss about greatness of Raja Raja Chola.   4M

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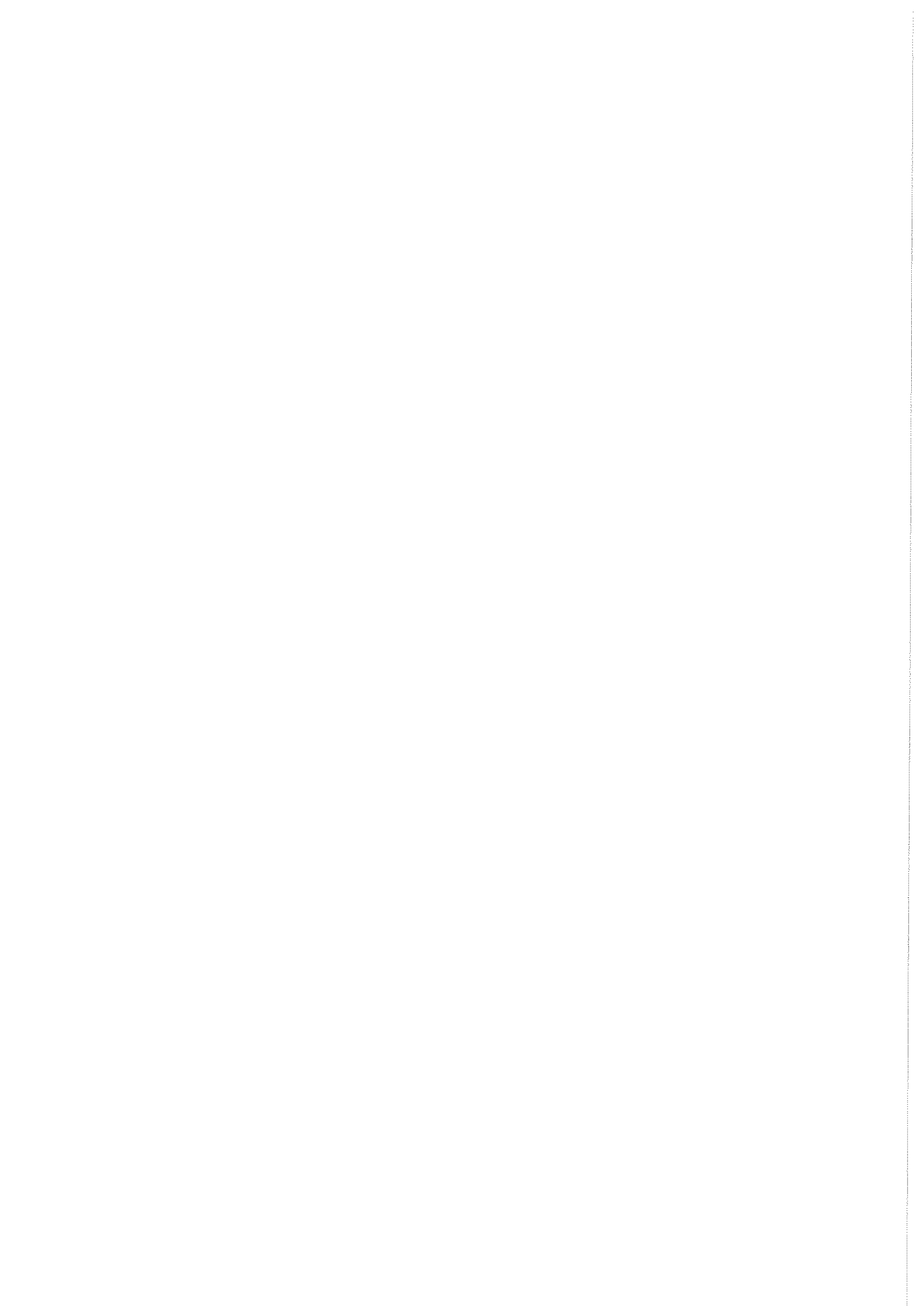
Fundamentals of Accounting - I

No. of Pages: 05	Roll No:	Max. Marks: 70M
Time: 3 Hrs	No. of Questions: 10	Pass Min.: 28M

****

Answer the following:

1. a) Pass Journal entries for the following transactions: 10M

		Rs.
2022 April 1	Modi started business with cash	40,000
2	Paid into bank	28,000
3	Bought furniture	2,500
4	Drew cash from bank for office	1,100
13	Sold to Krishna goods on credit	2,150
20	Bought goods from Shyam	4,225
24	Received from Krishna	2,100
	Allowed him discount	50
28	Paid to Shyam	4,000
	Discount received	225
30	Cash sales	8,000
30	Paid rent	500
	Paid salary	1,000

or

b) Journalise the following transactions in the books of K.Viswanth: 10M

2022 June 1 Viswanth started business with cash Rs.1,00,000, furniture Rs.50,000 & stock Rs.10,000.

2 Sold goods to Chitra subject to trade discount of 10% Rs.10,000.

4 purchased stationary Rs.1,000

13 Bought goods from A & Co. Rs.30,000

20 Withdraw cash for personal use Rs.1,000

21 Purchased Government securities Rs.1,500

22 Ramesh is declared insolvent and dividend of 50 paise per rupee is received from him in full settlement. Total amount due from him Rs.50,000.

23 Allow interest on capital 10% p.a.

25 Sale of furniture Rs.10,000.

30 Paid rent by cheque Rs.1,000.

2. a) Write any four concepts of accounting. 4M

or

b) Explain various types of rules of accounting. 4M

Fundamentals of Accounting - I

3. a) From the following prepare Purchase book, Sales book, Purchase Returns Books and Sales Returns Book. **10M**

       2022 Jan – 1 Purchased goods from Mahendra of the list Price Rs.40,000 less 10% trade discount

           5 Goods sold to Moti for Rs.10,000

           6 Returned goods to Mahendra at list price of Rs.5,000

           7 Purchased goods from Syam Rs.30,000

           8 Sold goods to Harish Rs.12,000

          10 Goods returned by Harish Rs.2,000

          19 Goods sold to Moti   Rs.6,000

          27 Sold goods to Mahesh Rs.8,000

                or

   b) From the following transactions write us the cash book with three column: **10M**

       2022 July 1 Commenced business with cash Rs.15,000

           2 Incurred operating expenses Rs.500

           2 Paid into bank Rs.13,500

           3 Paid Raman by cheque Rs.3,450 and discount allowed by him Rs.50

           4 Paid carriage on goods Rs.85

           5 Bought furniture by cheque Rs.700

           8 Received cheque from Kannan Rs.3,300 and discount allowed Rs.60

           8 Cash sales Rs.2,500

           9 Deposited into the bank Rs.2,400

          10 Cheque purchased Rs.5,000

          12 Received commission Rs.150

          15 Advertising expenses Rs.120

          18 Withdrew cash from bank Rs.500

          20 Received cheque from Murugan Rs.1,250 discount allowed Rs.50

          25 Drew for private use Rs.500

          28 Office expenses Rs.125

          31 Salaries paid by cheque Rs.500

          31 Paid rent by cheque Rs.1,000

          31 Purchased a type writer by cheque Rs.3,200

4. a) Explain about types of subsidiary books. **4M**

                or

   b) What is meant by Contra Entry? What are the circumstances for passing contra entry? **4M**

Fundamentals of Accounting - I

5. a) Pass the rectification entries and show the suspense account for the following errors, detected after the preparation of the Trial Balance: **10M**

      i) A cheque for Rs.220 received from a tenant for rent has been entered in the cash book, but the double entry has not been completed.

      ii) The account of Rama Rao, a debtor for Rs.160 had been written off as bad, but the entry has been made only in the personal account.

      iii) The discount column on the debit side of the cash book Rs.200 had been posted to the credit of discount received account.

      iv) The sales day book is under cost by Rs.3,150.

      v) Rs.95 received for commission is not posted to commission account.

      vi) Goods returned Rs.27 to R.K.& Company, though entered in the returns book, is left un posted.

or

b) Rectify the errors from following: **10M**

      i) Total of purchases book is Rs.1,000 excess.

      ii) Paid wages for construction of room, debited to wages account Rs.890.

      iii) A sale to Gopal Rs.320 has been entered in the sales book as Rs.230.

      iv) Sales returns book over cast by Rs.500.

      v) A sale of old furniture of Rs.700 had been credited to sales account.

6. a) Explain methods for preparing Trial Balance. **4M**

or

b) Write about types of errors. **4M**

7. a) On checking the bank pass book it was found that it showed on overdraft of Rs.5,220 as on 31-12-2015 while as per ledger it was Rs.130 to bank debit. Following differences were noted: **10M**

      i) Cheque deposited but not yet debited by bank Rs.6,000

      ii) Cheque dishonoured and debited by bank but not given effect to in the ledger Rs.800.

      iii) Bank charges debited by bank, but debit memo not received from bank Rs.50.

      iv) Interest on overdraft excess credited in the ledger Rs.200

      v) Wrongly credited by bank to the account, deposit of some other party Rs.900

      vi) Cheques issued but not presented for payment Rs.400.

you are required to prepare a Bank Reconciliation Statement as on 31-3-15

or

b) From the following information prepare Bank Reconciliation Statement as on 31-12-2022. Balance as per Cash book was Rs.6,600: **10M**
     i) Cheque issued but not yet presented for payment Rs.500.
     ii) Cheque deposited into bank, but not yet collected Rs.400
     iii) Bank charges amounting Rs.90, debited in the pass book.
     iv) The customer paid directly in to bank Rs.1,000
     v) Dividend on shares collected by bank Rs.1,500.

8. a) Write causes for difference between cash book and pass book. **4M**
                  or
   b) Define Bank Reconciliation Statement. **4M**

9. a) From the following particulars of Mr.KTR prepare Trading, Profit & Loss account and Balance Sheet for the year ended 31-03-2022: **10M**

Particulars	Rs.	Particulars	rs.
Cash	13,500	Capital	60,000
Goodwill	20,000	Creditors	12,500
Factory insurance	2,000	Commission received	7,500
Audit charges	1,500	Sales	1,30,000
Debtors	20,000	Return outwards	2,000
Wages	5,000	Interest received	5,000
Opening stock	12,000	Bills payable	3,500
Machinery	30,500		
Purchases	95,000		
Carriage inwards	2,500		
Salaries	12,500		
Office rent	5,000		
Furniture	1,000		
	2,20,500		2,20,500

Adjustments:
i) closing stock Rs.16,800
ii) Bad debts Rs.2,000 and provision for doubtful debts 5% on debtors
iii) Out standing wages Rs.1,000
iv) Depreciate machinery by 10%
v) Interest on capital 5% is to be provided
vi) Commission to be received Rs.200
               or

Fundamentals of Accounting - I

b) From the following Trial Balance of Mrs. Nirmala Seetharaman, prepare Trading, Profit & Loss account & Balance Sheet for the year ended 31-3-2021 after adjusting the following: **10M**

    i) Outstanding wages Rs.2,000 & salaries Rs.1,000.

    ii) Prepaid insurance Rs.50

    iii) Create a reserve of 5% for reserve for bad debts & 2% for discount on debtors.

    iv) Depreciation on furniture Rs.150 & machinery Rs.2,500.

Particulars	Rs.	Particulars	rs.
Salaries	6,000	Sales	47,000
Purchases	22,000	Creditors	21,000
Trade expenses	1,000	Discount	200
Wages	7,800	Capital	25,000
Carriage on purchases	400	Bills payable	6,800
Office expenses	500		
Commission	600		
Bad debts	1,200		
Debtors	30,000		
Furniture	3,000		
Machinery	10,000		
Insurance	400		
Bills receivable	2,000		
Cash	100		
Cash at bank	4,000		
Closing stock	11,000		
	1,00,000		1,00,000

10. a) Write about adjustments relating to: **4M**

    i) Prepaid expenses

    ii) Closing stock

<div align="center">or</div>

b) What is the difference between gross profit & net profit? **4M**

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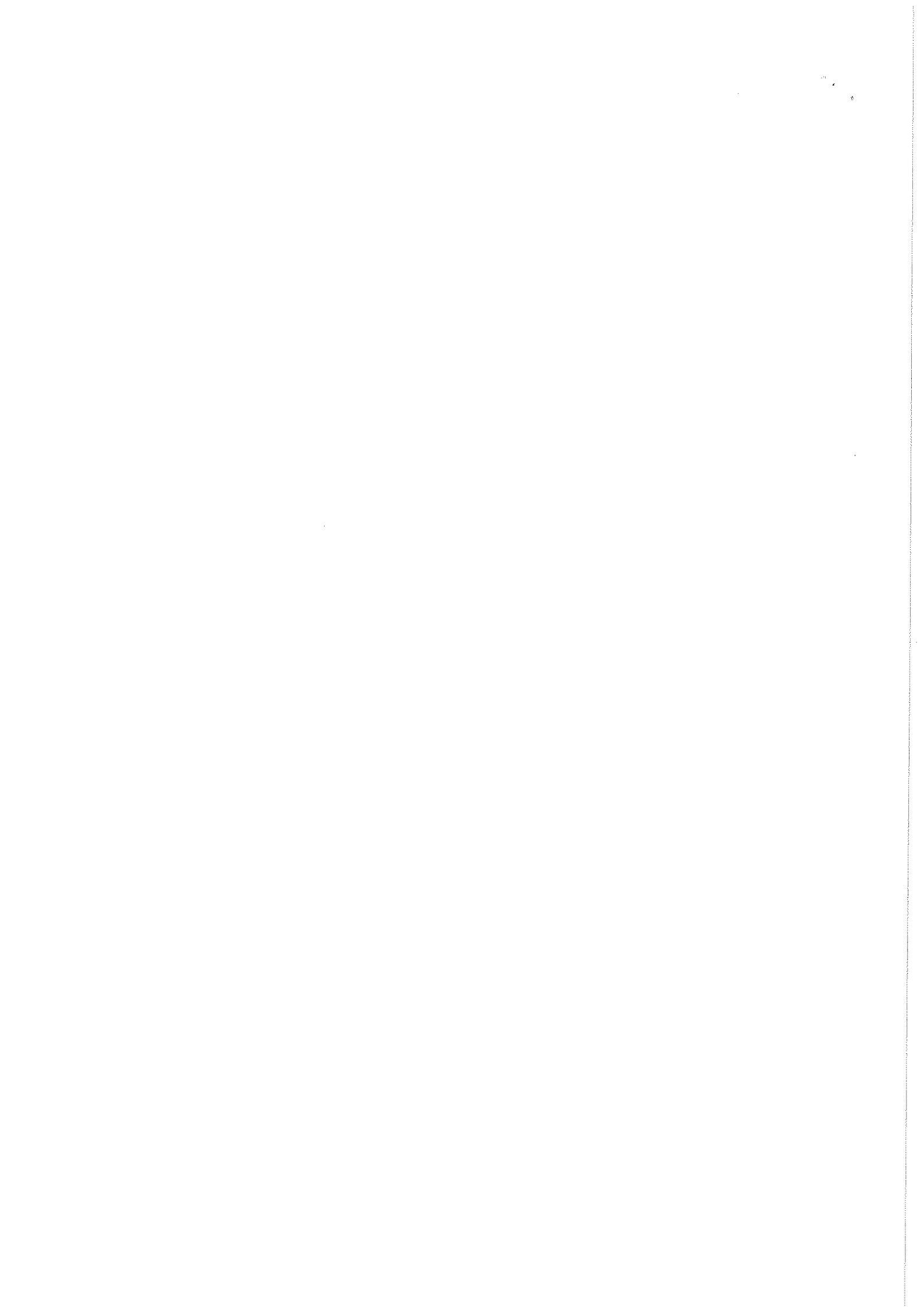
DIFFERENTIAL EQUATIONS

No. of Pages: 1   Roll No: Max. Marks: 70M
Time: 3Hrs   Pass Min: 28M
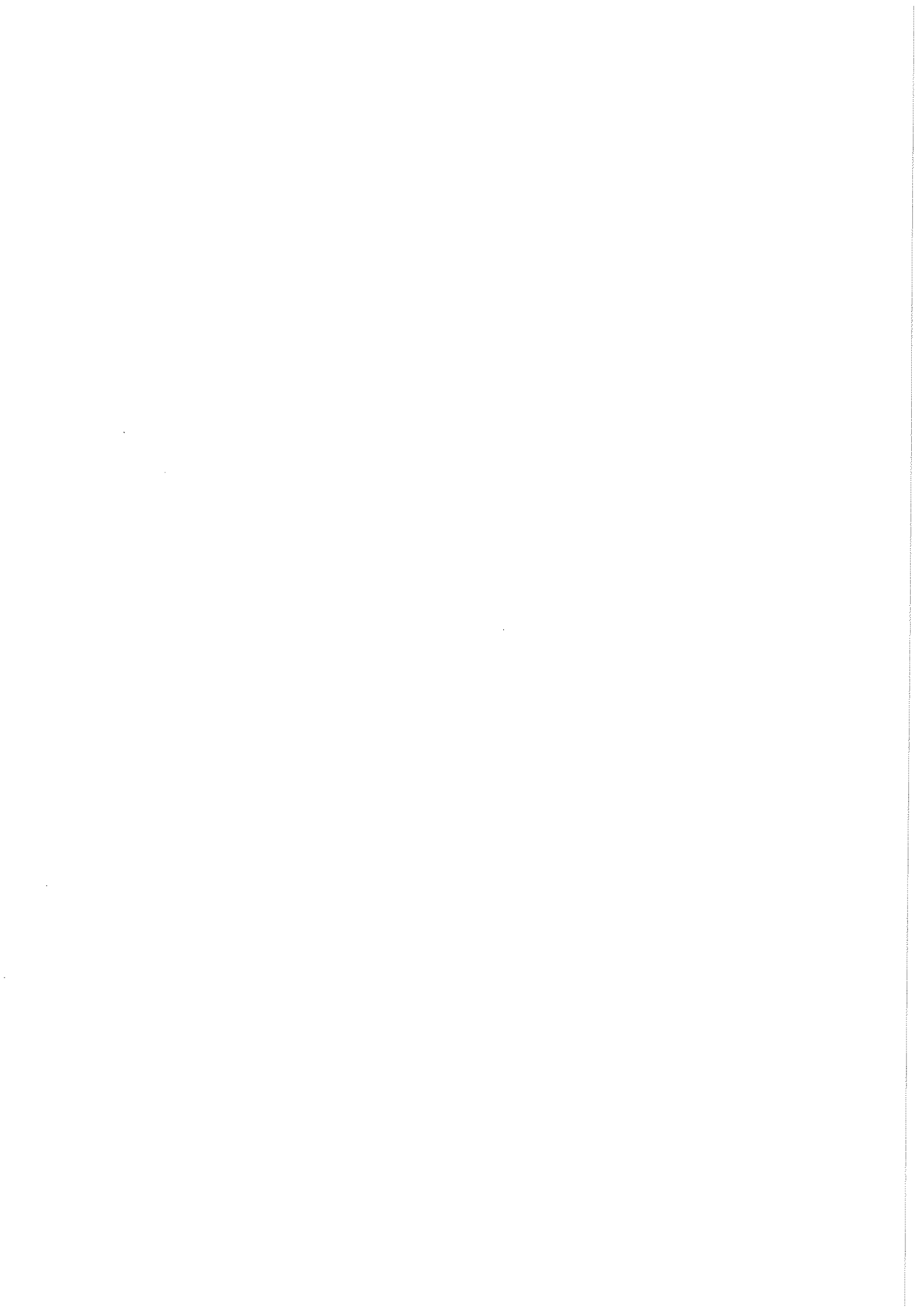No. of Questions: 10

Answer the following:

1. (a) Solve $y(xy + 2x^2y^2)dx + x(xy - x^2y^2)dy = 0$ 10M

     OR

   (b) Solve $x\dfrac{dy}{dx} + y = y^2 \log x$.

2. (a) Solve $(x^2 + y^2 + x)dx + xy\,dy = 0$.   4M

     OR

   (b) Solve $(x^2 + 1)\dfrac{dy}{dx} + 4xy = \dfrac{1}{x^2 + 1}$.

3. (a) Show that the family of confocal conics $\dfrac{x^2}{a^2 + \lambda} + \dfrac{y^2}{b^2 + \lambda} = 1$ is self orthogonal where 'λ' is

     the parameter.   10M

     OR

   (b) Solve $y = 2xp + x^2p^4$.

4. (a) Find the orthogonal trajectories of the family of curves $r^n \sin n\theta = a^n$ where 'a' is the
     parameter.   4M

     OR

   (b) Solve $p^2 - 5p + 6 = 0$.

5. (a) Solve $\dfrac{d^2y}{dx^2} + 4y = e^x + Sin\,2x + Cos\,2x$.   10M

     OR

   (b) Solve $(D^2 - 3D + 2)y = Cos\,hx$.

6. (a) Find the C.F. of $(D^3 - 5D^2 + 8D - 4)y = e^{2x}$.   4M

     OR

   (b) Find the P.I. of $(D^2 - D - 2)y = Sin\,2x$.

7. (a) Solve $(D^2 + 3D + 2)y = x\,e^x\,Sin\,x$.   10M

     OR

   (b) Solve $(D^2 - 2D + 4)y = 8(x^2 + e^{2x} + Sin\,2x)$.

8. (a) Find the P.I. of $(D^2 - 3D + 2)y = 2x^2$.   4M

     OR

   (b) Solve $(D^2 + 4)y = x\,Sin\,x$.

9. (a) Solve $(D^2 + a^2)y = Tan\,ax$ by the method of variation of parameters.   10M

     OR

   (b) Solve $(x^2D^2 - 3xD + 5)y = x^2\,Sin(\log x)$.

10. (a) Solve $(D^2 + a^2)y = Sec\,ax$ by the method of variation of parameters.   4M

     OR

   (b) Solve $(x^2D^2 - xD + 1)y = \log x$.

- 1 -

22BOT T11/ 1-02-2024

Fundamentals of Microbes & Non- Vascular Plants

No. of Pages:1 Roll No.: Max. Marks: 70M
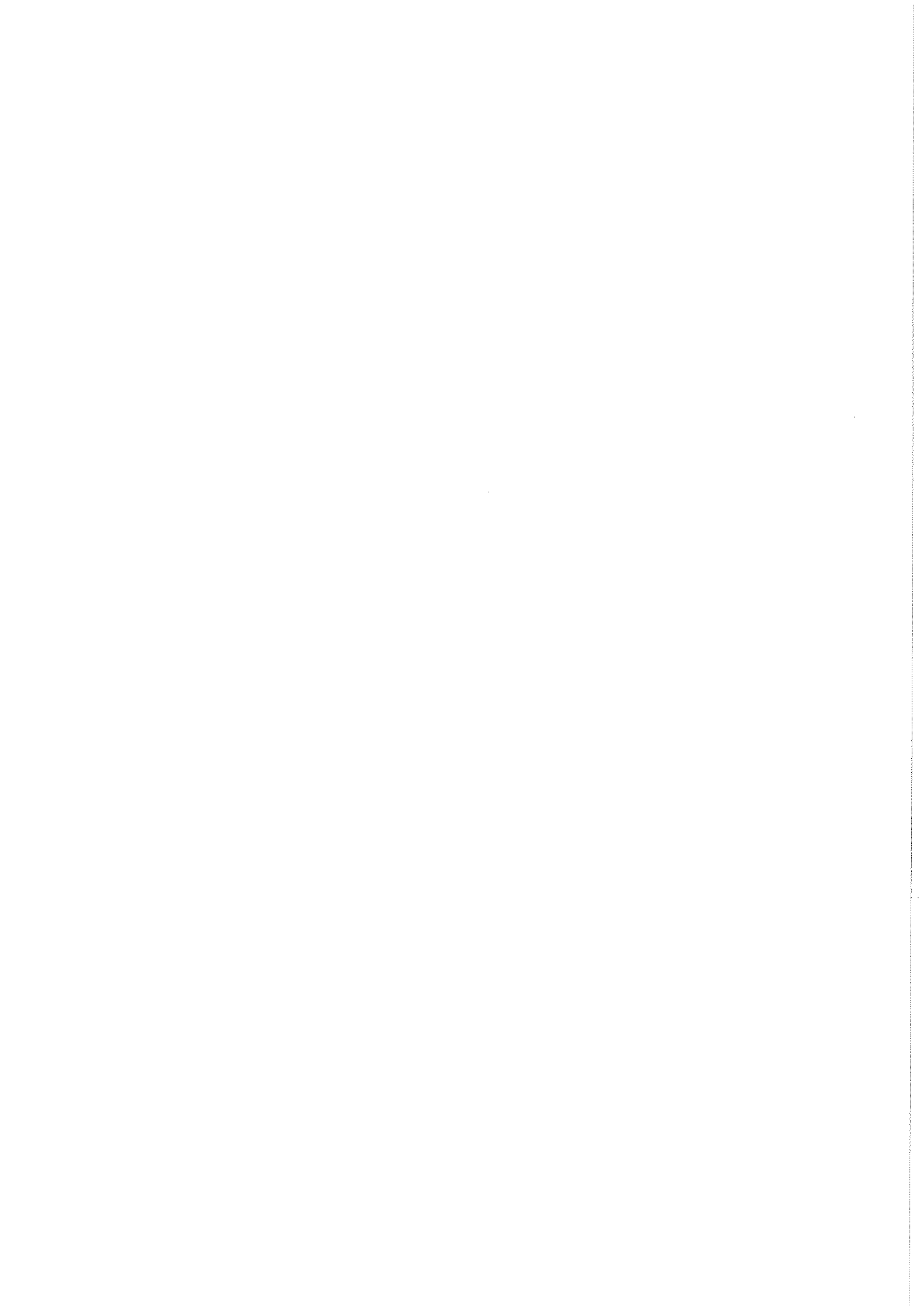Time: 3 Hrs. No. of Questions: 10 Pass Min. : 28M

Note : Draw neat labelled diagrams wherever necessary.

Answer the following:

1. a) Explain the theory of 'Abiosis'. 10M
    or
    b) Write an essay on transmission of plant viruses.

2. a) Explain five kingdom classification of RH Whittaker. 4M
    or
    b) Explain the experiments of Louis Pasteur.

3. a) Detail the economic importance of bacteria. 10M
    or
    b) Explain 'transformation' and transduction in bacteria.

4. a) State the characters of Actinomycetes 4M
    or
    b) Write short notes on nutrition of bacteria.

5. a) Outline the life cycle of *'Puccinia'*. 10M
    or
    b) Write an essay on the economic importance of fungi.

6. a) State the general characters of Fungi. 4M
    or
    b) Write a short note on blast of rice.

7. a) Explain different types of reproduction in *Spirogyra.* 10M
    or
    b) Elucidate the thallus organisation in Algae.

8. a) Write a short note on pigments in Algae. 4M
    or
    b) Write notes on economic importance of Algae.

9. a) Trace the process of "evolution of sporophyte in Bryophyta". 10M
    or
    b) Explain the general characters of Bryophytes.

10. a) Write a short note on "gemma cup" . 4M
    or
    b) Describe structure of gametophore of *Funaria.*

*****

SECTION - A

Answer any **FOUR** questions. Each question carries **FIVE** marks.   4x5=20M

1.   Explain the Process Framework.

2.   Explain the objectives of Software Engineering.

3.   Illustrate the Waterfall Model.

4.   Explain the process of Validating Requirements.

5.   Explain the design process in Software Engineering.

6.   Write the Quality Standards.

SECTION - B

Answer any **FIVE** questions. Each question carries **TEN** marks.   5x10=50M

7.   Write the Process Patterns.

8.   Explain the Software Myths.

9.   Explain the Increment model.

10.   Explain the RAD model.

11.   Explain the process of Negotiating Requirements.

12.   Briefly explain the Design concepts in Design Engineering.

13.   Explain about SSQA?

14.   Define software quality control and software quality assurance?
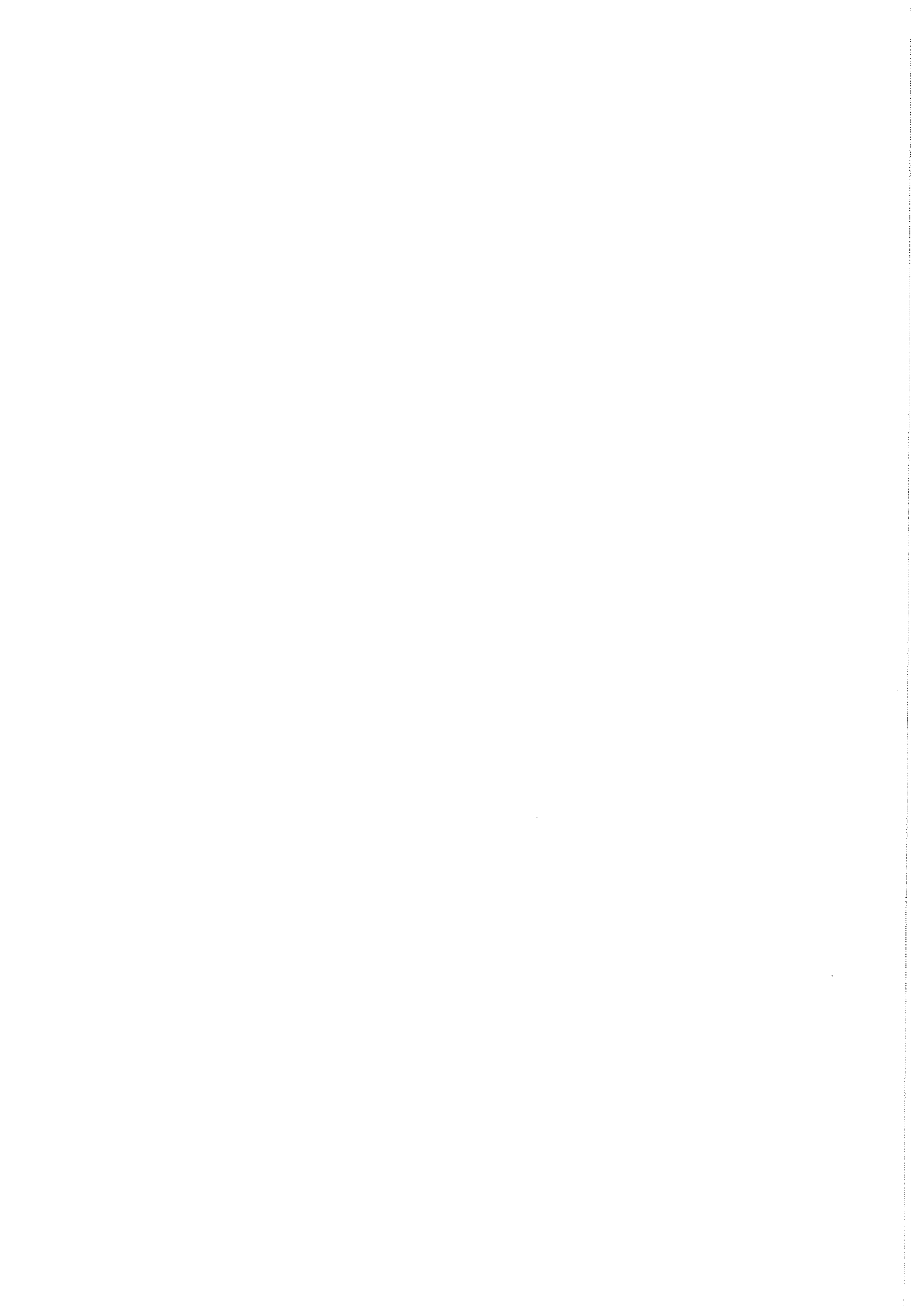
AG & SG Siddhartha Degree College of Arts & Science (AUTONOMOUS)
VUYYURU - 521 165.

No. of Pages : 01   Question Paper (w.e.f. 2019 Batch)   No. of Questions : 14

Course Code (s) :............52............   SEM - V   DD/MM/YY : | 0 | 1 | 0 | 2 | 2 | 0 | 2 | 4 |

Subject :............COMPUTERS............   Paper Code :....CCSC - 505........   Min Marks : 28

Title of the Paper : ....Object Oriented Programming using Java....................

Time : 3:00 Hrs.   Regd. No :   Max Marks : 70

SECTION – A

Answer any **FOUR** questions. Each question carries **FIVE** marks.   4x5=20M
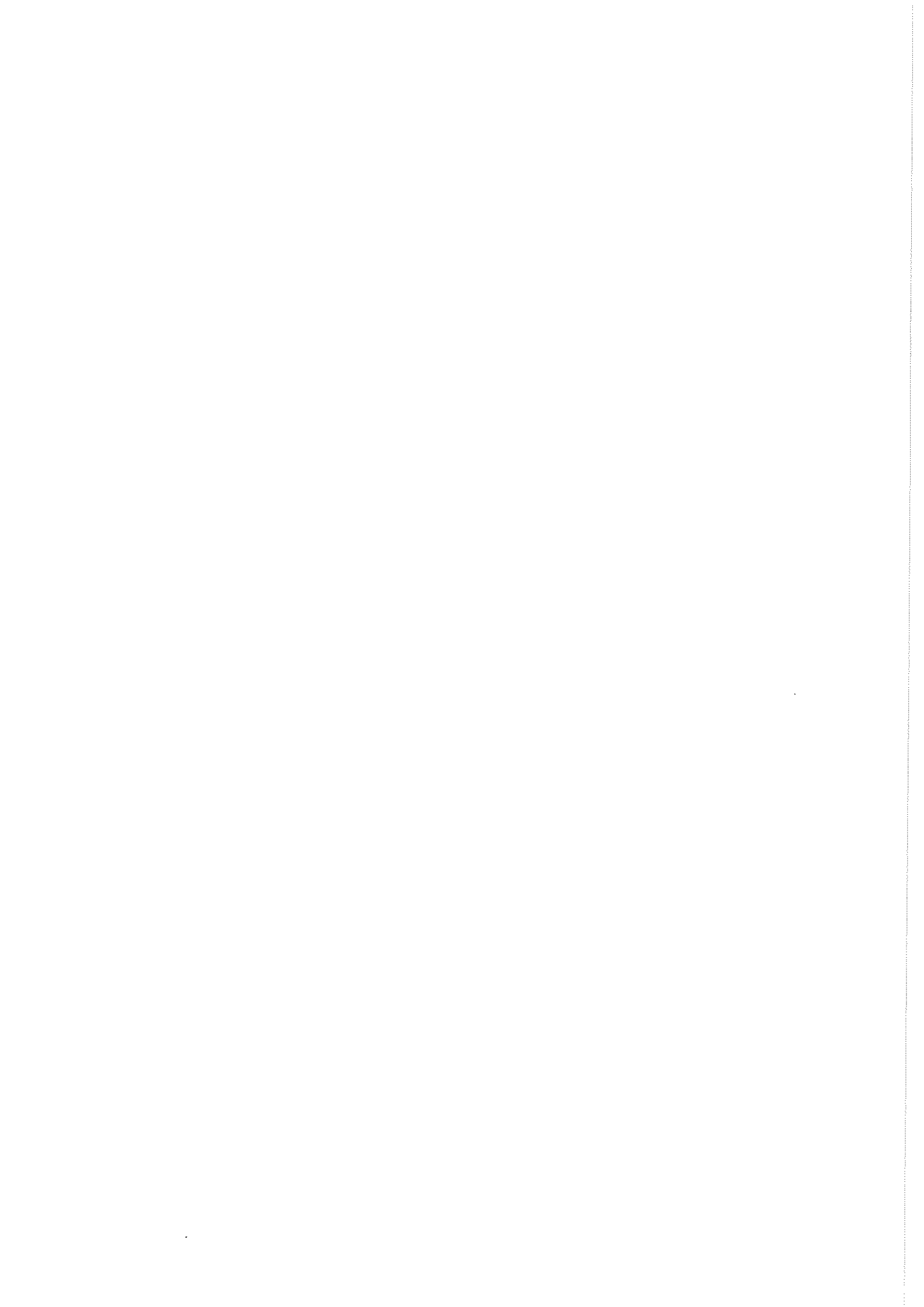
1.   Write the Java Features.

2.   Write the Java Virtual Machine.

3.   What is Type casting? Explain with an example.

4.   What is conditional operator? Explain.

5.   Explain the Constructors.

6.   Explain the Wrapper Classes.

SECTION – B

Answer any **FIVE** questions. Each question carries **TEN** marks.   5x10=50M

7.   Write the basic concepts of Object Oriented Programming.

8.   Write the benefits and applications of Object Oriented Programming.

9.   Explain the Java tokens with an example.

10.   Explain the Command Line Arguments.

11.   Explain the decision making statement with an example.

12.   Explain the Looping Statement with an example.

13.   Define Class? How do you create objects and access class members?

14.   Define Interface? How do you implement interfaces? Explain with an example.

SECTION – A

Answer any **FOUR** of the following questions.   4x5=20M

1.	Structure of Kidney	–	మూత్రపిండాల యొక్క నిర్మాణం
2.	Myelinated Nerve fibres	–	మైలినేటెడ్ నెర్వ్ ఫైబర్లు
3.	Thyroid gland	–	థైరాయిడ్ గ్రంథి
4.	Structure of Glucose	–	గ్లూకోజ్ యొక్క నిర్మాణం
5.	Transamination	–	ట్రాన్స్ ఎమైనేషన్
6.	Glycolysis	–	గ్లైకోలసిస్
7.	Fertilization	–	ఫలదీకరణం
8.	Types of eggs	–	గుడ్లలోని రకాలు

SECTION – B

Answer any **FIVE** of the following questions.   5x10=50M

9. Write an essay on structure and functioning of heart.
    గుండె నిర్మాణం మరియు పనితీరుపై ఒక వ్యాసం వ్రాయండి.

10. Explain the process of Urine formation?
    మూత్రం ఏర్పడే ప్రక్రియను వివరించండి.

11. Explain the hormonal control of reproduction in Mammals.
    క్షీరదాలలో పునరుత్పత్తి యొక్క హార్మోన్ల నియంత్రణ గురించి వివరించండి.

12. Write an essay on structure and function of Thyroid and Adrenal glands.
    థైరాయిడ్ మరియు అడ్రినల్ గ్రంథుల నిర్మాణం మరియు పనితీరుపై ఒక వ్యాసం వ్రాయండి.

13. Write an essay on classification of lipids.
    లిపిడ్ల వర్గీకరణపై ఒక వ్యాసం వ్రాయండి.

14. Write an essay on carbohydrates classification.
    కార్బోహైడ్రేట్ల వర్గీకరణపై ఒక వ్యాసం వ్రాయండి.

15. Write an essay on β-oxidation of palmitic acid in lipid metabolism.
    లిపిడ్ జీవక్రియలో పాల్మిటిక్ ఆమ్లం యొక్క β-ఆక్సీకరణపై ఒక వ్యాసం వ్రాయండి.

16. Describe the process of Gametogenesis.
    గామాటోజెనిసిస్ యొక్క ప్రక్రియను వివరించండి.
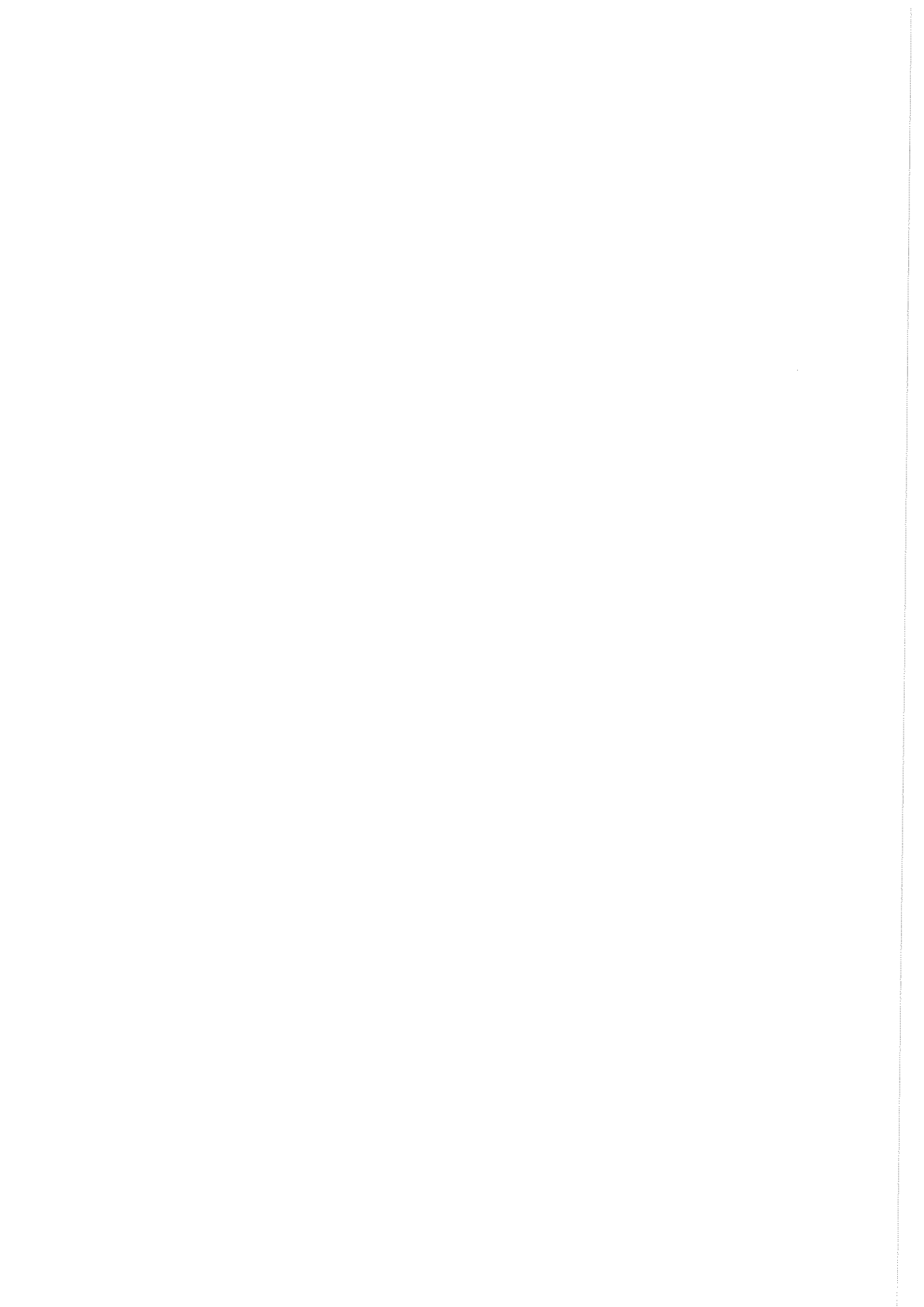
SECTION - A

Answer any **FOUR** of the following questions. (Draw neat diagrams wherever necessary)   4x5=20M

1.	Types of Stomata	–	పత్రరంధ్ర రకాలు
2.	Economic importance of Teak	–	టేకు ఆర్థిక ప్రాముఖ్యత
3.	Tapetum	–	టపెటమ్
4.	Edaphic and Biotic factors	–	భూసారాదులు & జీవసారాదులు / ఎడాఫిక్ & బయోటిక్ కారకాలు
5.	Food Chain	–	ఆహారపు గొలుసు
6.	Ecads	–	ఇకాడ్స్
7.	P/R Ratio	–	P/R నిష్పత్తి
8.	Red Data Book	–	రెడ్ డేటా పుస్తకము

SECTION - B

Answer any **FIVE** of the following questions. (Draw neat diagrams wherever necessary)   5x10=50M

9.   Describe the theories that explain organisation of apical meristems.
అగ్రవిభాజ్య కణజాల సంవిధానమున వివరించే సిద్ధాంతాలను గురించి వ్రాయుము.

10.   Describe the process of Anomalous Secondary growth in the stem of Dracaena.
డాక్రేనా – కాండంలో జరిగే అసంగత ద్వితీయవృద్ధి విధానమును వివరింపుము.

11.   Describe various types of female gametophytes in Angiosperms.
ఆవృత బీజాలలోని వివిధ రకాల స్త్రీ సంయోగ బీజదముల గురించి వివరింపుము.

12.   Write about the different types, development and importance of Endosperm in Angiosperms.
ఆవృత బీజ మొక్కలలో అంకురచ్ఛదము రకాలు, అభివృద్ధి మరియు ప్రాముఖ్యతను గురించి వ్రాయుము.

13.   What is an Ecosystem? Describe the different components of an Ecosystem.
ఆవరణ వ్యవస్థ అనగానేమి? ఆవరణ వ్యవస్థలోని వివిధ రకాల అనుఘటకాలను గురించి వివరింపుము.

14.   Describe Hydrosere.
జల అనుక్రమము గురించి వివరింపుము.

15.   Define the term Community? Describe various characteristics of community.
'సంఘము' అను పదమును నిర్వచింపుము. సంఘము యొక్క లక్షణములను వివరింపుము.

16.   Write an essay on the conservation of Biodiversity.
జీవవైవిధ్య సంరక్షణ గురించి వ్యాసము వ్రాయుము.
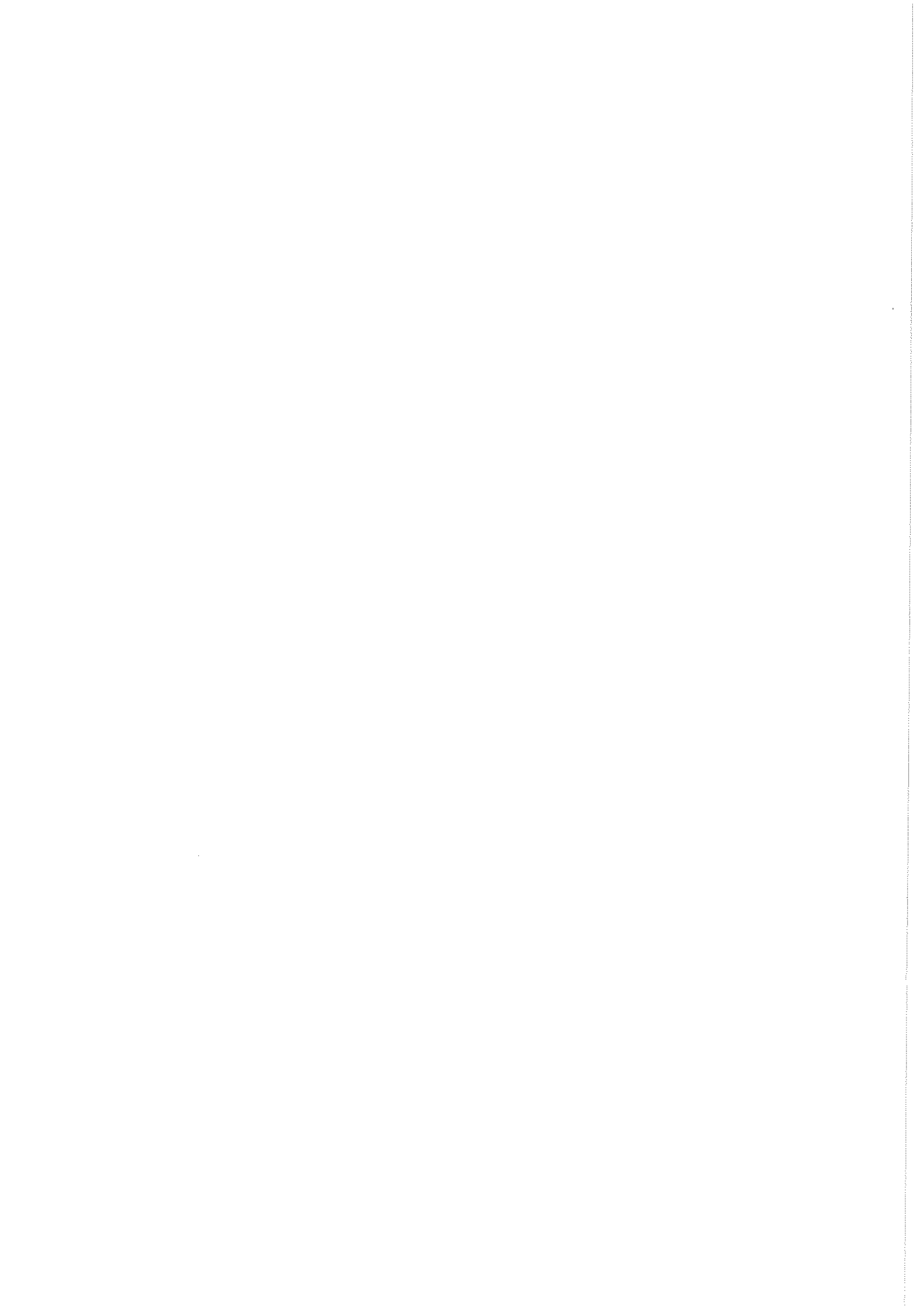
LOCAL ADMINISTRATION

No. of Pages: 01	Roll No:	Max. Marks: 75M
Time: 3 Hrs	No. of Questions: 13	Pass Min.: 30M

****

Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Explain Ambedkar view in Panchayati Raj.
2. Write a short note on L.M. Singhvi recommend items.
3. What are the main features of 73rd Constitution amendment?
4. Mandal Parishad Development Officer (MPDO).
5. Discuss the Indira Awas Yojana (IAY).
6. Explain the MGNREG's scheme.
7. Public relations in local government.
8. Types of reporting.
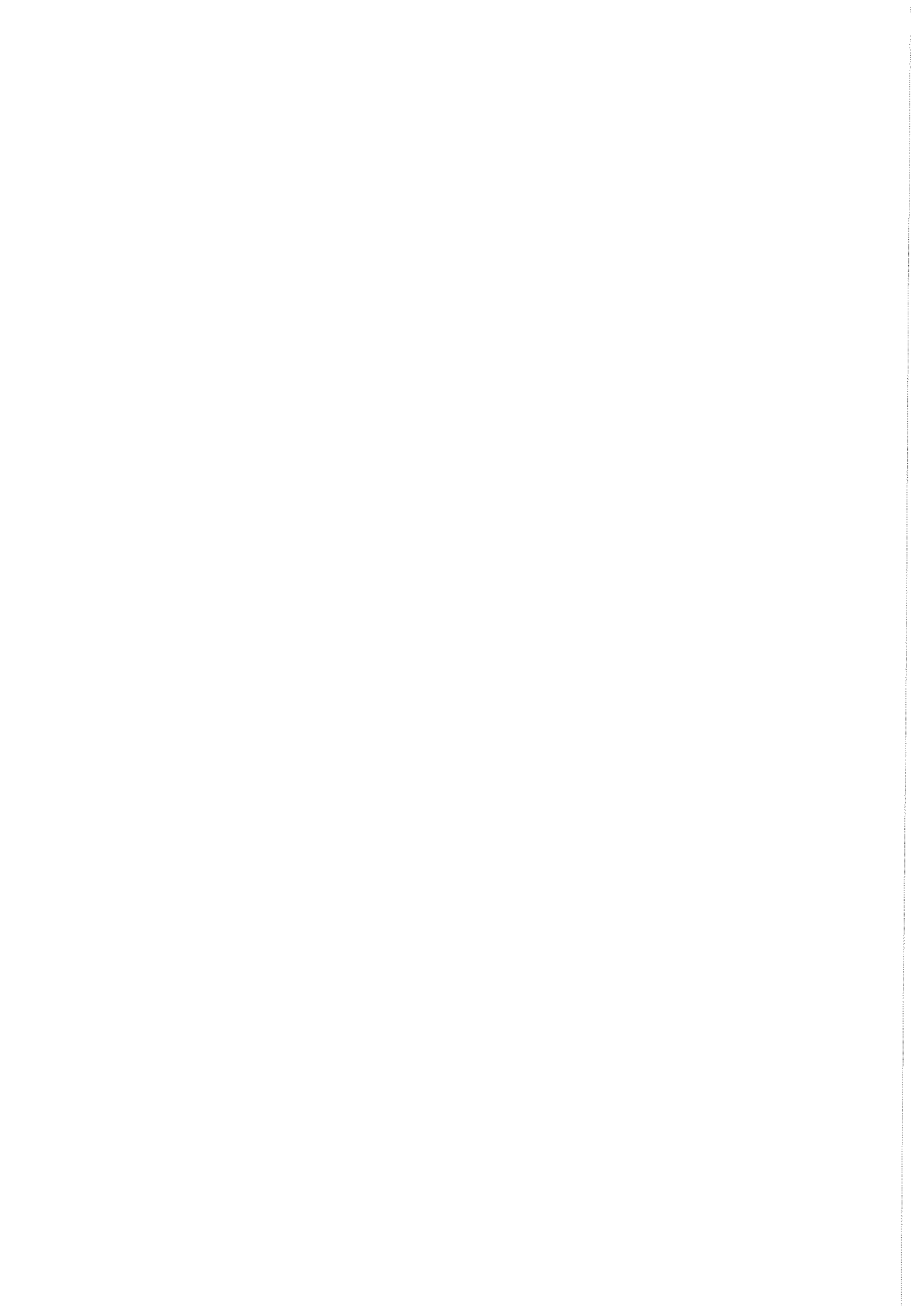
Section B

Answer the following: 5 x 10 = 50M

9. a) Define local government. Explain its nature and importance.

   or

   b) What are the various recommendations of Ashok Mehta Committee?

10. a) What are the main features of 74th Constitution Amendment?

    or

    b) What is the role of District Collector strengthening local government?

11. a) What are the major sources of revenue for the local government?

    or

    b) Discuss the strengths, weaknesses, opportunities and challenges.

12. a) What are the challenges for the local government in finance?

    or

    b) What are the challenges faced by local government and politics?

13. a) How to write a meeting minutes report? Explain.

    or

    b) Explain the local administration use of ICT in documentation.

* * *

Sales Promotion and Practice

No. of Pages: 01	**Roll No:**	**Max. Marks: 75M**
Time: 3 Hrs	**No. of Questions: 13**	**Pass Min.: 30M**

****

Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Nature of sales promotion.
2. Sales control.
3. Cross promotion.
4. Trade fairs & exhibitions.
5. Conventions and conferences.
6. Sales quota's.
7. Sales budget.
8. Training.

Section B

Answer the following: 5 x 10 = 50M

9. a) What is sales promotion? Explain the factors influencing sales promotion.

    or

    b) Define sales organization. Explain the types of sales organization.

10. a) Explain various aspects of sales promotion.

    or

    b) Discuss the various theories of personal selling.

11. a) Explain the ethical and legal issues in sales promotion.

    or

    b) Discuss various steps in designing of sales promotion campaign.

12. a) Explain various types of salesman.

    or

    b) What are the qualities and functions of sales manager?

13. a) Discuss about compensation and evaluation of sales personnel.

    or

    b) Explain recruitment and selection in sales force management.
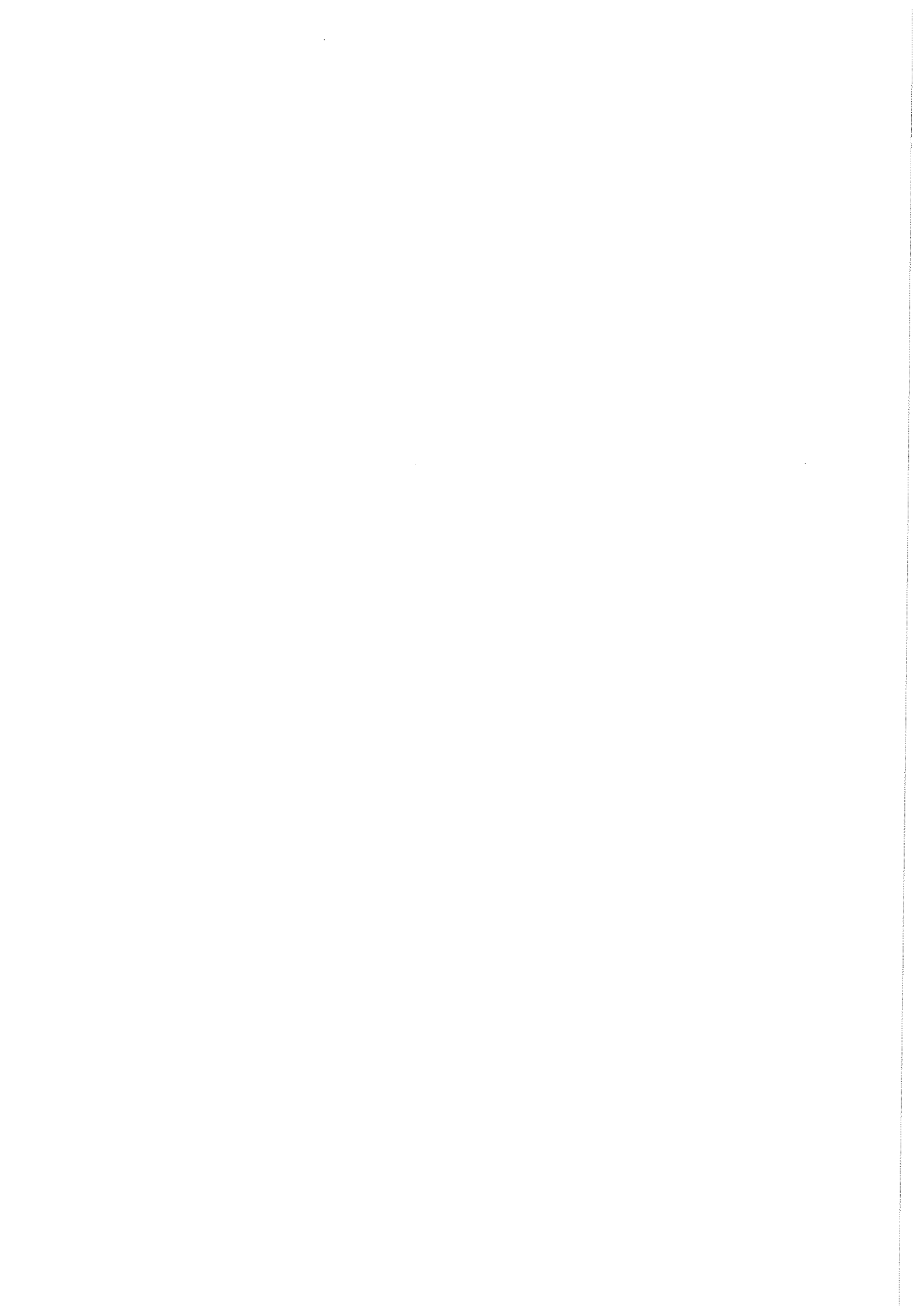
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No. of Pages: 02	Roll No:	Max. Marks: 75M
Time: 3 Hrs	No. of Questions: 13	Pass Min.: 30M

****

Section A

Answer any FIVE of the following: **5 x 5 = 25M**

1. Define sequencing problem. State the assumptions of job-sequencing problem.
2. Describe the method of processing of n-jobs on three machines.
3. Explain group replacement policy of items that fails completely.
4. Explain maximum and mini-max principle for solving a game.
5. Explain steps in CPM/PERT.
6. State the rules for drawing a network diagram.
7. Explain graphical method for solving 2 x n rectangular games.
8. Describe the classifications of queuing models.

Section B

Answer the following: **5 x 10 = 50M**

9. a) Explain Johnson's algorithm to obtain an optimum sequence for n-jobs on two machines.

   or

   b) A company has 6 jobs which has to process on two machines. The processing times of each job on two machines were given below:

Job	A	B	C	D	E	F
Machine M₁	1	4	6	3	5	2
Machine M₂	3	6	8	8	1	5

   Determine an optimal sequence of jobs and also total elapsed time, idle time of the machines.

10. a) Explain an individual replacement policy of an item that deteriorates with time and value of money is constant.

    or

    b) A firm has purchased machine A with cost Rs.20,000 and the scrap value is Rs.200. The running cost of the machine over the years as given below:

Year:	1	2	3	4	5	6	7	8
Running cost Rs:	300	600	900	1300	1900	2500	3500	5000

    Determine in which year the machine should be replaced.

11. a) Explain algebraic method for solving 2 x 2 rectangular games.

or

b) Solve the following rectangular game.

Player A

$$
\begin{array}{c}
\quad\quad\quad A_1 \;\; A_2 \;\; A_3 \;\; A_4 \\
Player\ B\;\; \begin{array}{c} B_1 \\ B_2 \\ B_3 \end{array}
\begin{bmatrix}
3 & 5 & 7 & 9 \\
2 & 4 & -6 & 8 \\
4 & 2 & 4 & 10
\end{bmatrix}_{3\times4}
\end{array}
$$

12. a) Explain critical path method for network problems.

or

b) The various activities and corresponding activity times are given below in a project. Draw the network diagram and critical path for total time duration for completing the entire project.

Activity	1-2	1-3	2-4	2-5	3-4	4-6	5-6	6-7
Time (Hrs)	6	4	5	3	6	8	4	3

13. a) Explain $(M/M/1):(\infty/FIFO)$ queuing model and also obtain steady state equations of $P_1, P_2,\ldots\ldots\ldots P_n$. Where P_n= probability distribution of queue length.

or

b) In a railway marshalling yard, goods trains arrive at a rate of 30 trains per day. Assuming that the inter arrival time follows an exponential distribution and the service time distribution is also exponential with an average 36 minutes.
Calculate
   i)   the probability that the queue size exceeds 10.
   ii) If the input of trains increases to an average 33 per day, what will be the change in i) and ii)

* * *

ELECTRONIC INSTRUMENTATION

No. of Pages: 01   Roll No: Max. Marks: 75M
Time: 3 Hrs   No. of Questions: 13   Pass Min.: 30M
****

Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Explain different types of errors.
2. Discuss the source of errors in measurement of resistance.
3. Discuss about various controls of CRT.
4. Mention any five applications of CRO.
5. Write a short note on photo transducer.
6. Explain about binary ladder.
7. Write the characteristics of an ideal op-amp.
8. Explain about the summing amplifier.
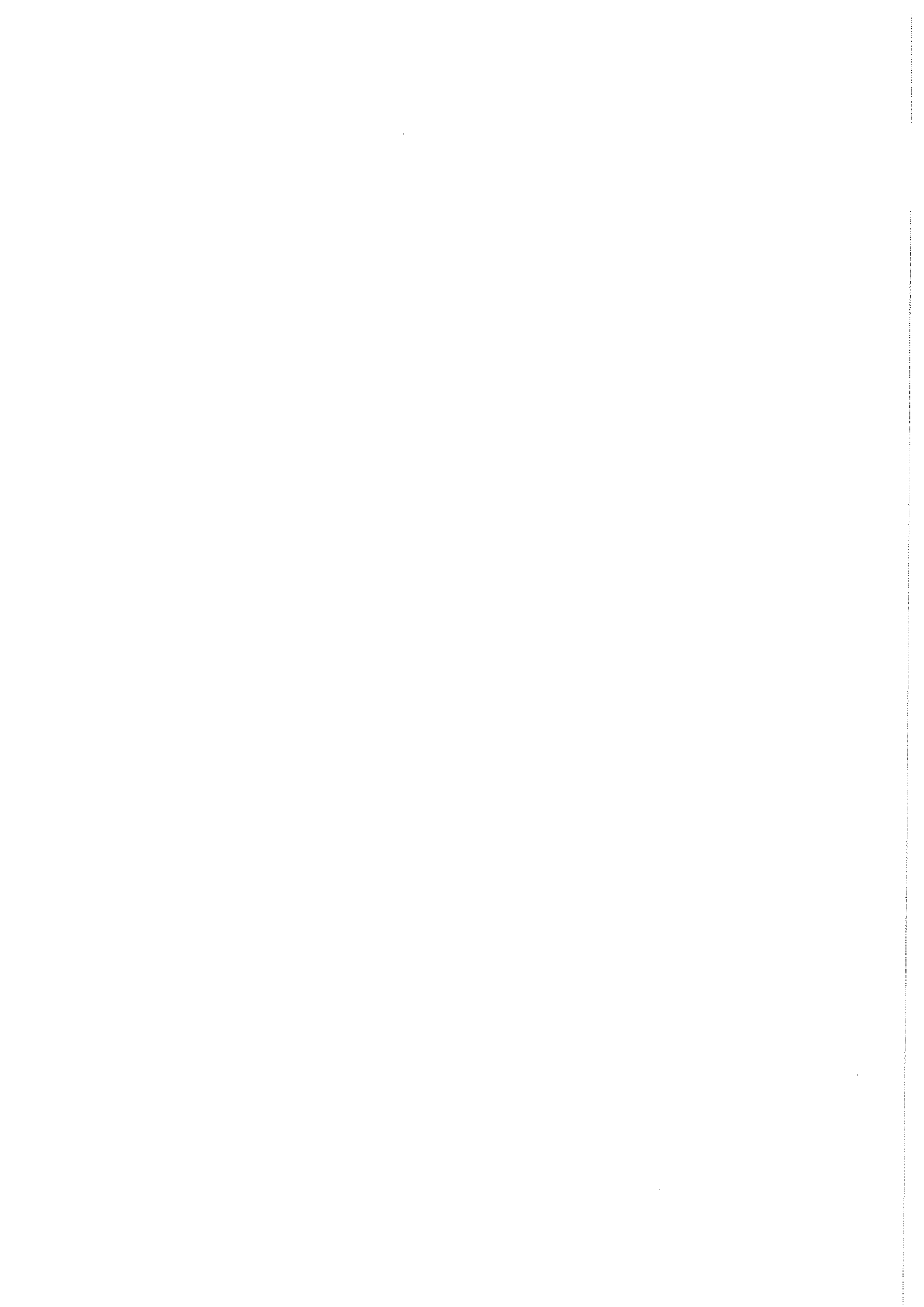
Section B

Answer the following: 5 x 10 = 50M

9. a) Explain the construction and working of an analog multimeter.

   or

   b) Write about DC voltmeter and AC voltmeter.

10. a) Discuss about the principle and working of a CRO.

   or

   b) How do you measure AC voltage, DC voltage and frequency using CRO?

11. a) Compare capacitive and inductive transducers.

   or

   b) Explain the construction and working of wheat stone bridge.

12. a) Explain about A/D and D/A converters.

   or

   b) Explain the construction and operation of seven segment display.

13. a) Explain the working of an op-amp in

   i) Inverting and   ii) Non inverting configuration

   or

   b) Explain the working of an integrator and a differentiator using an OP-Amp.

* * *

ZOO SET02 / 02-02-2024

Post harvest Technology of Fish and Fisheries
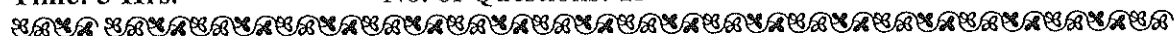
No. of Pages:1	Roll No.:	Max. Marks: 75M
Time: 3 Hrs.	No. of Questions: 13	Pass Min. : 30M

Note : Draw neat labelled diagrams wherever necessary.

SECTION A

Answer any FIVE of the following: *5 x 5 = 25M*

1. How would you store and transport fresh fish? Explain.

2. What are the uses of fish preservatives?

3. What is the difference between chilling and freezing?

4. Illustrate accelerated freeze drying.

5. Write about fish protein concentrate and fish manure .

6. State the importance of environmental hygiene in processing plants.

7. Explain pre- processing control.

8. Give an account of ISO 9000:2000series of quality assurance system.

SECTION B

Answer the following: *5 x 10 = 50M*

9. a) How does spoilage occur in marine and fresh water fish? Expalin.
   OR
   b) Enumerate the principles of preservation.

10. a) Explain traditional methods of fish preservation .
    OR
    b) Analyse how the refrigerated sea water, canning and irradiation are used as advanced methods of fish preservation.

11. a) Write about any five fish products.
    OR
    b) Mention the fish by- products and write in detail about any two fish by- products.

12. a) Explain the importance of personal hygiene in processing plants .
    OR
    b) State how the quality control of fish and fishery products is maintained during and after processing.

13. a) Elaborate the good manufacturing practices (GMPs) in seafood quality assurance.
    OR
    b) Explain the concept of Hazard Analysis and Critical Control Points(HACCP) in seafood safety traceability.
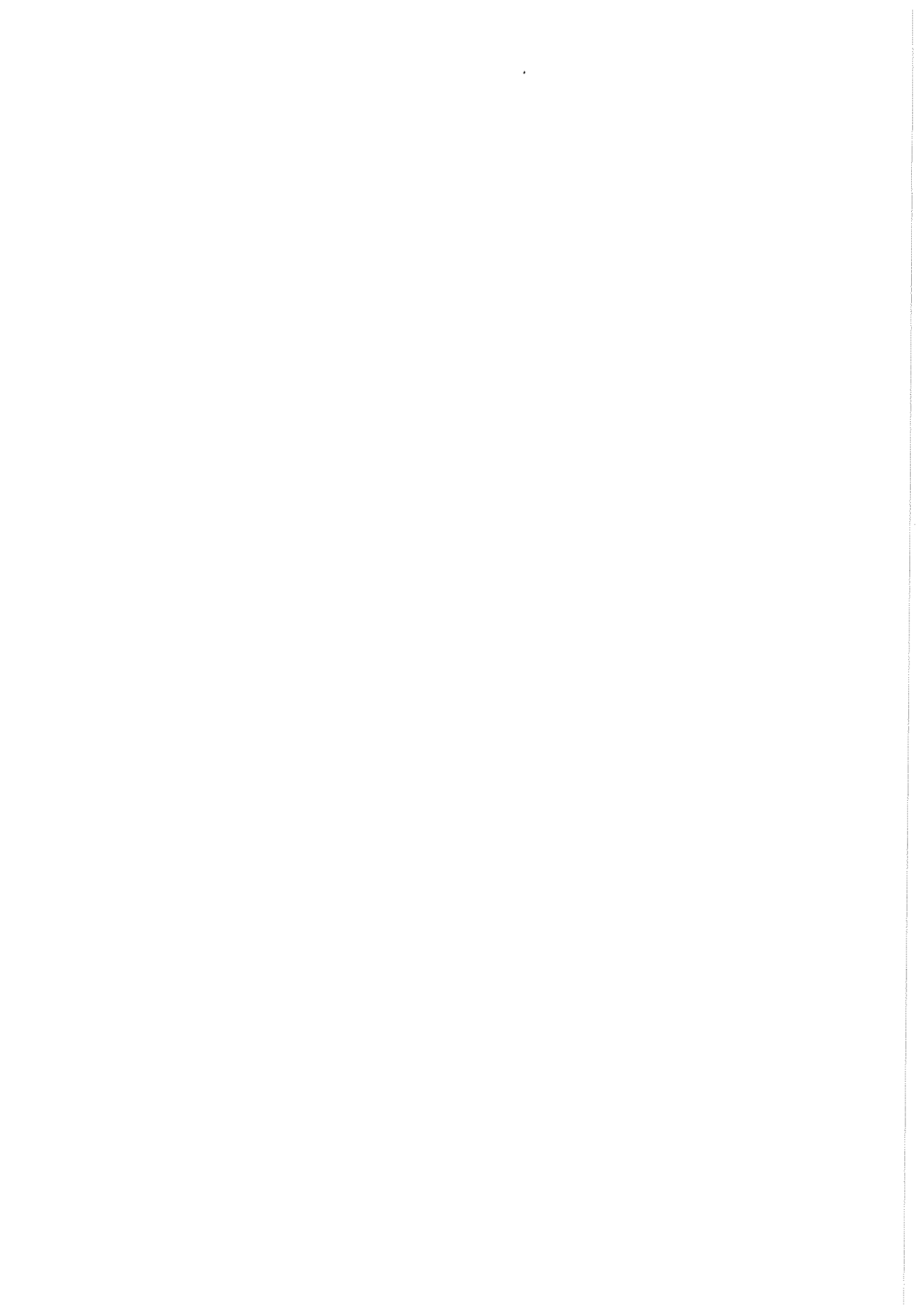
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SECTION - A

ఈ క్రింది ప్రశ్నలకు సమాధానములు వ్రాయుము.   2x5=10M

1. స్వామి వివేకానంద

(OR)

2. జలియన్ వాలాబాగ్

3. భారతదేశ పటములో ఈ క్రింది ప్రదేశాలు గుర్తించండి.

    ఎ. ఢిల్లీ   బి. మీరట్   సి. కాన్పూర్   డి. తంజావూరు   ఇ. అయోధ్య

(OR)

4. భారతదేశ పటములో ఈ క్రింది ప్రదేశాలు గుర్తించండి.

    ఎ. కాశ్మీర్   బి. హైదరాబాద్   సి. పాట్నా   డి. బెంగాల్   ఇ. జూనాఘడ్

SECTION - B

ఈ క్రింది వానిలో ఏవైనా **నాలుగు** ప్రశ్నలకు సమాధానములు వ్రాయుము.   4x15=60M

5. కారన్‌వాలిస్ అనుసరించి సైన్య సహకార పద్ధతిని గూర్చి వివరించండి.

6. లార్డ్ రిప్పన్ యొక్క సంస్కరణలు గురించి వ్రాయండి.

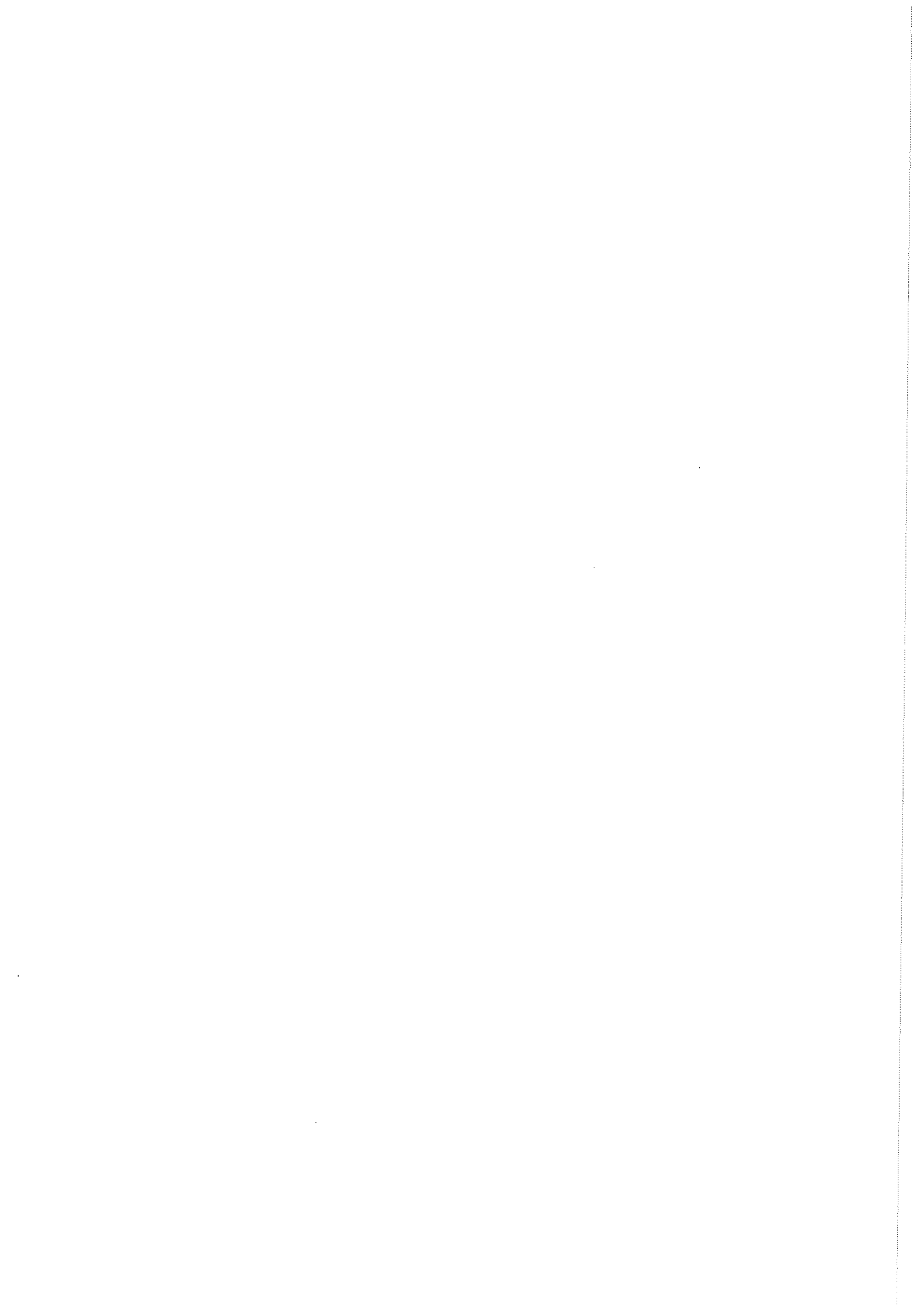7. 19వ శతాబ్దంలో జరిగిన సాంఘిక, మత సంస్కరణోద్యమాలు గూర్చి వివరించండి.

8. జాతీయోద్యమం ఆవిర్భవించటానికి గల కారణాలు గురించి వ్రాయండి.

9. డా‖ బి. ఆర్. అంబేద్కర్ భావజాలాన్ని వివరించండి.

10. జాతీయోద్యమంలో గాంధీజీ నిర్వహించిన పాత్ర ఎట్టిది?

11. జాతీయోద్యమంలో సుభాష్ చంద్రబోస్ పాత్ర ఏమిటి?

12. సంస్థానాల విలీనీకరణలో సర్దార్ వల్లభాయ్ పటేల్ పాత్ర గురించి వ్రాయండి.

SECTION – A

Answer any **FOUR** of the following questions.   4X5=20M

1.   Write a note on mean free path.

     సగటు స్వేచ్ఛాపథాన్ని వ్యాఖ్యానించండి.

2.   State and explain second law of thermodynamics.

     ఉష్ణగతిక శాస్త్ర రెండవ నియమాన్ని నిర్వచించి, వివరించుము.

3.   Derive equation $C_p - C_v$?

     $C_p - C_v$ సమీకరణాన్ని ఉత్పాదించుము.

4.   Distinguish between adiabatic and Joule Thomson expansion.

     స్థిరోష్ణక వ్యాకోచం మరియు జౌల్ – థామ్సన్ వ్యాకోచం మధ్య భేదాలు రాయండి.

5.   Deduce Wein's law from planck's law.

     ప్లాంక్ నియమం నుంచి వీన్ నియమం ఉత్పాదించండి.

6.   Determine the r.m.s velocity of N_2 molecules at S.T.P (density of N_2 is 1.25 gm/cm³)

     S.T.P వద్ద N_2 అణువుల యొక్క r.m.s వేగం కనుక్కోండి? (N_2 యొక్క సాంద్రత 1.25 gm/cm³)

7.   Calculate the efficiency of reversible engine that operates between 327°c and 127°c.

     327°c మరియు 127°c ల మధ్య పని చేసే వృత్క మణీయ ఇంజన్ దక్షత లెక్కించండి.

8.   Find the wavelength at which maximum energy is radiated by a black body having a temperature of 327⁰c. The wein's constant is 2.897X10⁻³mk

     327⁰c వద్ద ఒక కృష్ణ వస్తువు ద్వారా గరిష్ఠ శక్తి ప్రసరించే తరంగ దైర్ఘ్యాన్ని కనుగొనండి.

     (వీన్ స్థిరాంకం 2.897X10⁻³mk).

Answer any **FIVE** of the following questions.   5X10=50M

9.   Derive an expression for Maxwell's law of distribution of molecular speeds in gas.

      మాక్స్వెల్ వేగ వితరణ నియమానికి సమీకరణం ఉత్పాదించండి.

10.   Describe the working of Carnot's engine. Derive an expression for its efficiency.

      కార్నో యంత్రం యొక్క పనితీరును వర్ణించి, దాని దక్షతకు సమీకరణం రాబట్టుము.

11.   What are reversible and irreversible processes? How does entropy change in each of these processes.

      ఉత్క్రమణీయ, అనుత్క్రమణీయ ప్రక్రియలు అనగానేమి? ఈ ప్రక్రియల్లో ఎంట్రోపిలో వచ్చే మార్పులు ఏమిటి?

12.   What are thermodynamic potentials? Obtain Maxwell's thermodynamic relations by using these potentials.

      ఉష్ణగతిక శక్తులు అనగా నేమి? వీటిని ఉపయోగించి మాక్స్వెల్ ఉష్ణగతిక సంబంధాలను రాబట్టుము.

13.   Describe Joule Thomson porous plug experiment. Obtain an expression for cooling produced. due to this effect.

      జౌల్ – థామ్సన్ పోరస్ప్లగ్ ప్రయోగాన్ని వర్ణించండి. ఈ ప్రయోగంలో చల్లదనానికి సమీకరణాన్ని ఉత్పాదించండి.

14.   Describe the adiabatic demagnetization method to produce low temperature.

      అల్ప ఉష్ణోగ్రతలు పొందడానికి స్థిరోష్ణక నిరస్కాంత ప్రయోగాన్ని వర్ణించండి.

15.   Derive Planck's Radiation law.

      ప్లాంక్ వికిరణ సూత్రాన్ని రాబట్టండి.

16.   Explain the working of Angstrom Pysheliocueter.

      ఆంగ్స్ట్రామ్ పైర్ హీలియో మీటరు యొక్క పనితీరును వివరించండి.

Introduction to Political Science

No. of Pages: 01	Roll No:	Max. Marks: 75M
Time: 3 Hrs	No. of Questions: 13	Pass Min.: 30M

****

Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Nature of the political science.
2. Write about Historical Approaches.
3. Explain any two elements of the State.
4. What is Welfare State? Explain it.
5. Write types of liberties.
6. Explain Political Rights.
7. Write about socialism.
8. Write about liberalism.

Section B

Answer the following: 5 x 10 = 50M

9. a) Define political science and explain its scope.

or

b) What are the modern approaches to study of political science?

10. a) Explain the Thomas Hobbes social contract theory.

or

b) Define modern state and explain features of modern state.

11. a) Define Law and explain the sources of Law.

or

b) Define power and explain the features of power.

12. a) Define Rights and explain the Civil Rights.

or

b) What are the benefits of the Universal adult franchise?

13. a) An essay on New Liberalism.

or

b) Discuss the features of Marxism.

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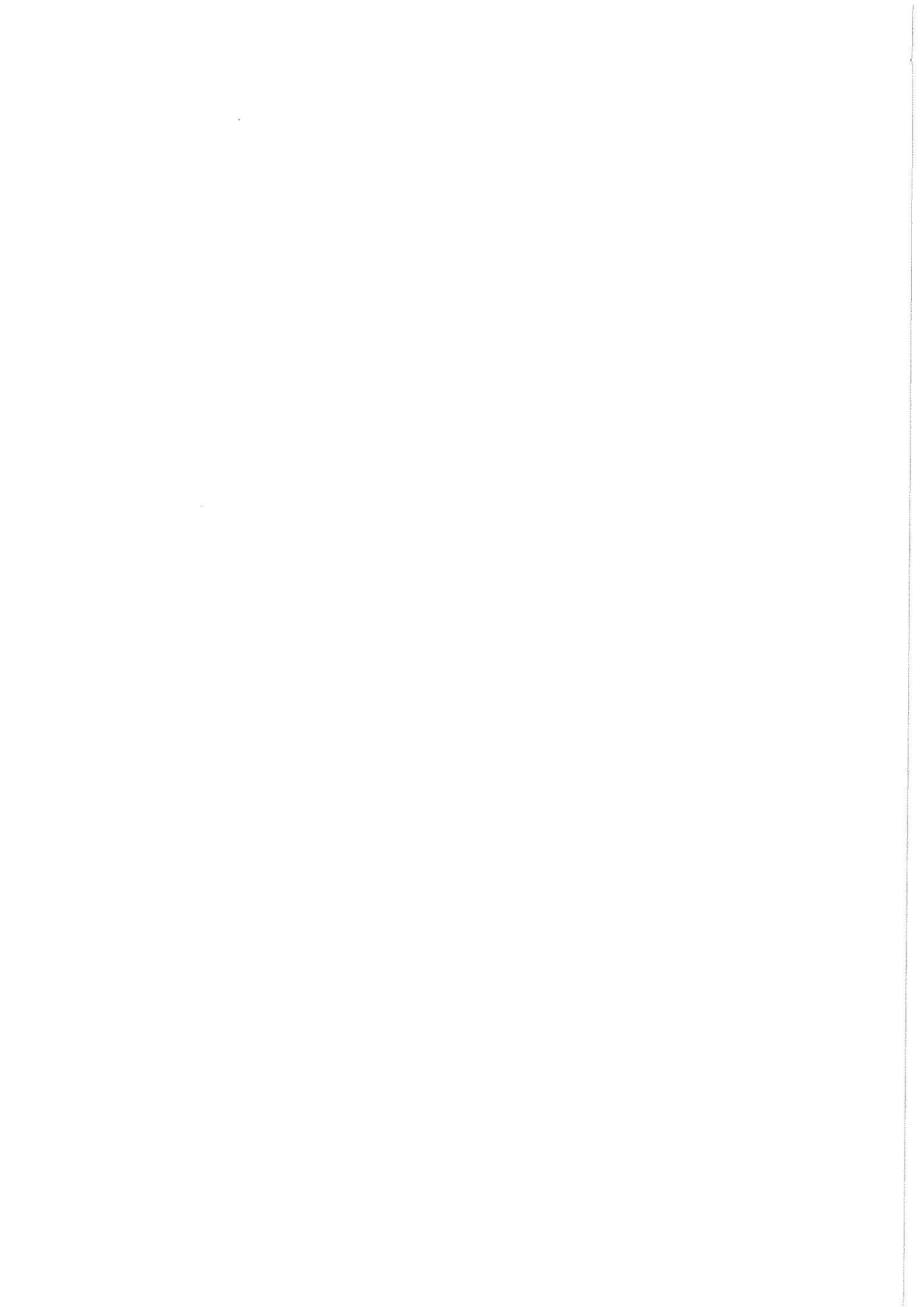
Business Organization and Management

| No. of Pages: 01 | Roll No: | Max. Marks: 75M |
| Time: 3 Hrs | No. of Questions: 13 | Pass Min.: 30M |

SECTION – A

Answer any FIVE of the following: *5 X 5 = 25M*

1. Types of Trade.
2. Aids to trades.
3. Sole trading business.
4. Prospectus.
5. Levels of Management.
6. Management and Administration.
7. Importance of Planning.
8. PSEs.

SECTION – B

Answer the following: *5 X 10 = 50M*

9. (a) Distinguish between Trade, Commerce and Industry.
    OR
    (b) What are the features of Business?

10. (a) Define Private and Public Companies. Distinguish between Private and Public Company.
    OR
    (b) What is a company form of organisation? Discuss its features.

11. (a) Define Memorandum of Association. What are its contents?
    OR
    (b) What is Articles of Association?

12. (a) Define Management. Explain its characteristics.
    OR
    (b) Explain Fayol's principles of management.

13. (a) Write about Line & Staff organisation.
    OR
    (b) Define Planning. What are its merits and demerits?

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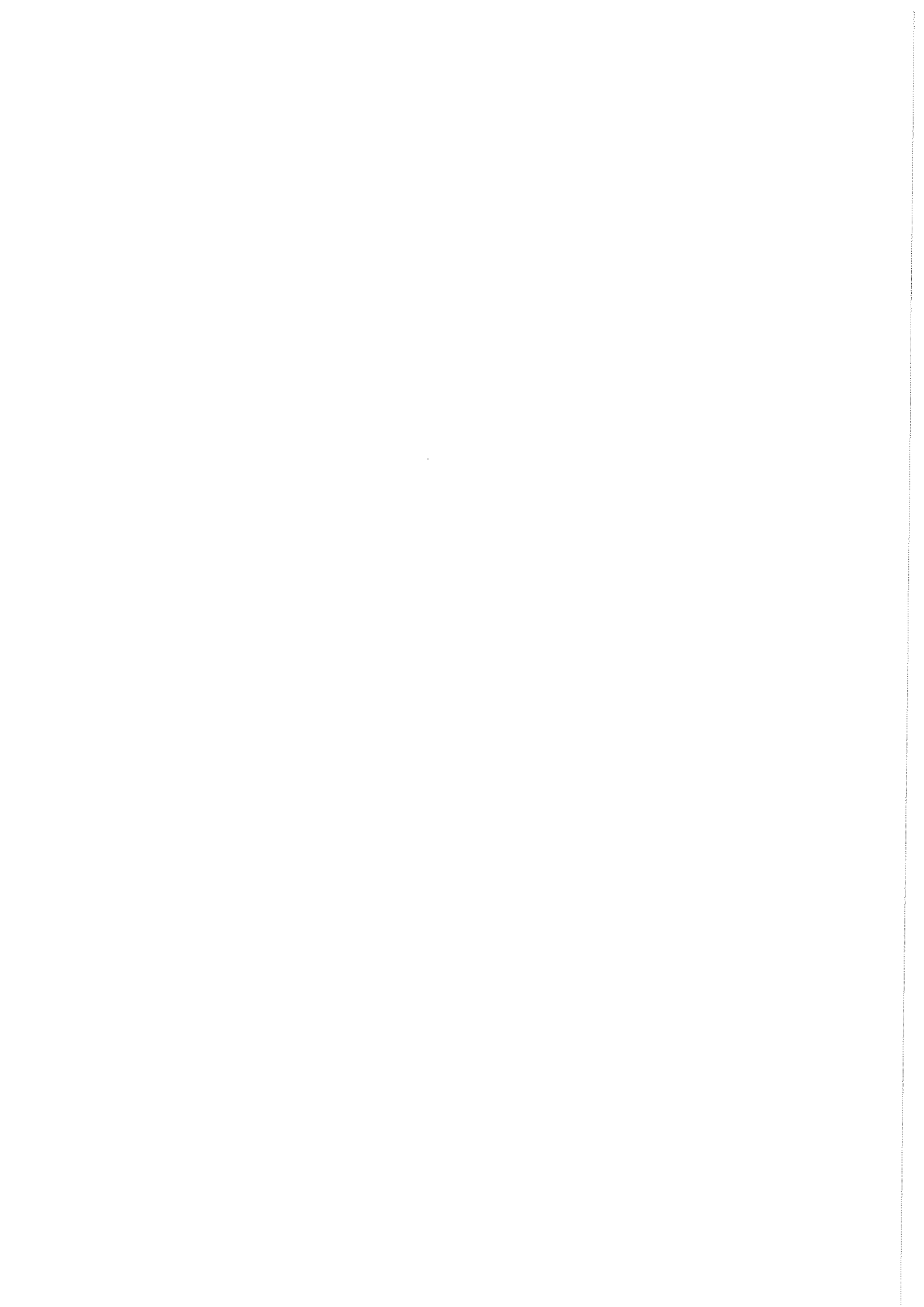
MECHANICS, WAVES & OSCILLATIONS

No. of Pages: 02	Roll No:	Max. Marks: 75M
Time: 3 Hrs	No. of Questions: 14	Pass Min.: 30M

****

Section A

Answer the following: 5 x 10 = 50M

1. a) Define impact parameter. Derive an expression for Rutherford scattering cross section.

    or

    b) Explain the precessional motion of spinning top. Obtain an expression for precessional velocity. Show that the rate of precession is independent of mass but depend on distribution of mass.

2. a) What is central force? Show that the central force is a conservative force.

    or

    b) State Kepler's laws of planetary motion. Derive Kepler's 2nd and 3rd law of planetary motion.

3. a) Describe Michelson Morley experiment. What is the significance of the negative result?

    or

    b) State the postulates of special theory of relativity. Derive Lorentz transformation equations.

4. a) Derive the equation of motion of a damped oscillator and find its solution. Discuss the condition of critical damping.

    or

    b) State Fourier theorem. Analyse a square wave with the help of Fourier theorem.

5. a) Discuss the longitudinal modes of vibration of a bar clamped rigidly at both the ends.

    or

    b) What are ultrasonics? Describe Magnetostriction method for producing ultrasonics.

Section B

Answer any THREE of the following: 3 x 5 = 15M

6. Explain about the multistage rocket.
7. Describe global positioning system.
8. Derive Einstein's mass-energy relation.
9. Explain Q-factor.
10. Write the properties and applications of ultrasonics.

MECHANICS, WAVES & OSCILLATIONS

Section C

Answer any TWO of the following: 2 x 5 = 10M

11. A rocket of mass 40 kg has got a fuel of mass 360 kg inside it. The exhaust velocity of the fuel is 2 km/sec. The fuel is burnt at the rate of 4 kg/s. Find the final velocity of the rocket.

12. If the earth be one half of its present distance from the sun. What will be the number of days in a year?

13. At what speed the mass of an object will be double of its value at rest.

14. The amplitude of a seconds pendulum falls to half initial value in 150 sec. Calculate the Q-factor.

* * *

Descriptive Statistics and Theory of Probability

No. of Pages: 02	Roll No:	Max. Marks: 75M
Time: 3 Hrs	No. of Questions: 13	Pass Min.: 30M

****

Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Explain Kurtosis.
2. Define Mathematical & Axiomatic definitions of probability.
3. From a well – shuffled pack of 52 cards, a card is drawn at random. Find the probability of it being either a red king or a black queen.
4. State and prove multiplication theorem for 2 events.
5. Define distribution function & state its properties.
6. State and prove Cauchy Schwartz inequality.
7. Explain the concept of marginal & conditional probability distributions.
8. Explain the concept of "Weak Law of large numbers".

Section B

Answer the following: 5 x 10 = 50M

9. a) Derive the central moments in terms of non – central moments.

   or

   b) Calculate Bowley's coefficient of skewness for the following data:

C.I	4-8	8-12	12-16	16-20	20-24
F	4	10	15	8	3

10. a) State and prove Boole's inequality.

    or

    b) If two dice are thrown, what is the probability that the sum is
       i) Greater than 8   ii) neither 7 nor 11

11. a) State and prove multiplication theorem of probability for 'n' events.

    or

    b) A manufacturer has 3 machines operators A,B and C. The first operator 'A' produces 1% defective items, where as the other two operators B and C produce 5% & 7% defective items respectively. A is on the job for 20% of the time. A defective item is produced what is the prob that it was produced by A.

Descriptive Statistics and Theory of Probability

12. a) Let X be a continuous random variable with p.d.f
      $f(x) = ax, 0 \leq x \leq 1$
          $= a, 1 \leq x \leq 2$
          $= -ax + 3a, 2 \leq x \leq 3$
          $= 0$, else where.
     i) Determine the constant a
     ii) Compute $p(x \leq 1.5)$
              or
  b) A random variable X has the following probability distribution:

X	0	1	2	3	4	5	6	7
P(x)	0	K	2k	2k	3k	K^2	$2k^2$	$7k^2+k$

13. a) Explain variance of a linear combination of x random variables.
              or
  b) State and prove Chebyshev's inequality.

* * *

Introduction to Political Science

No. of Pages: 01   Roll No: Max. Marks: 70M
Time: 3 Hrs   No. of Questions: 10   Pass Min.: 28M

****

Answer the following:

1. a) Define political science. Explain the importance of political science.   10M

   or

   b) Analyse the modern approaches in the study of political science.   10M

2. a) What are the scope of political science?   4M

   or

   b) Write a short essay on historical approach.   4M

3. a) Critically analyse the social contract theory.   10M

   or

   b) Define state analyse divine theory of origin of the state.   10M

4. a) What are the elements of the state?   4M

   or

   b) Write a short note on welfare state?   4M

5. a) Define Law. Explain the classification of Law.   10M

   or

   b) Define liberty. Analyse the various safeguards of liberty.   10M

6. a) Write a short note on equality.   4M

   or

   b) Explain the types of power.   4M

7. a) Critically analyse the classification as rights.   10M

   or

   b) Elaborate various theories of rights.   10M

8. a) Explain the nature of rights.   4M

   or

   b) Write a short note on Human Rights.   4M

9. a) Write an essay on socialism.   10M

   or

   b) Define individualism and explain its features.   10M

10. a) What is multi culturalism?   4M

   or

   b) Write a short note on Marxism.   4M

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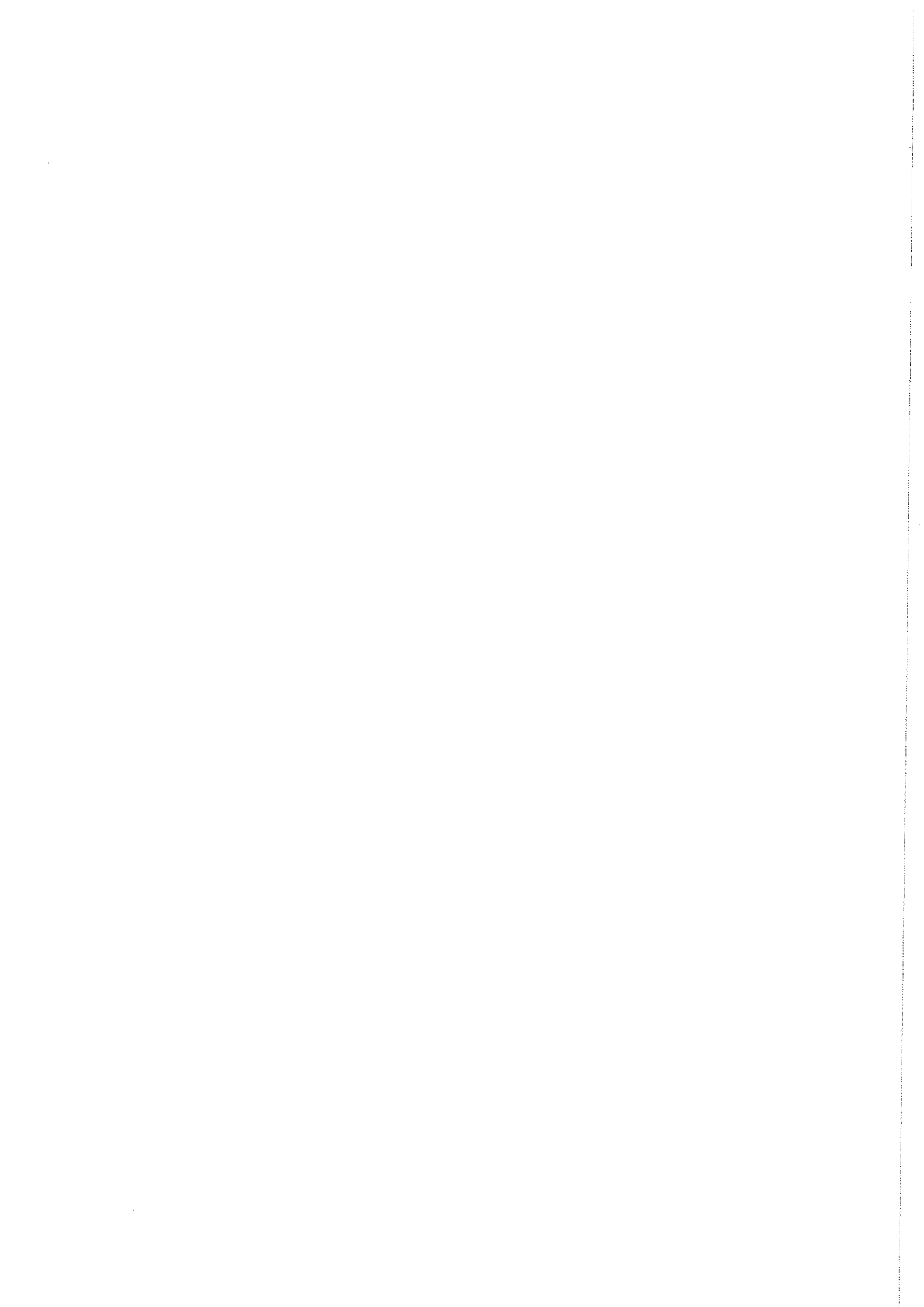
Business Organisation and Management

No. of Pages: 01   Roll No: Max. Marks: 70M
Time: 3 Hrs   No. of Questions: 10   Pass Min.: 28M
****

Answer the following:

1. a) Explain about functions of business.   10M
        or
    b) Write about types of industries.   10M
2. a) Explain about classifications of trade.   4M
        or
    b) Write about characteristics of commerce.   4M
3. a) Explain about merits & demerits of partnership business.   10M
        or
    b) Distinguish between private and public company.   10M
4. a) Features of joint stock company.   4M
        or
    b) What do you mean by MNC's?   4M
5. a) What is meant by memorandum of association and explain about its
        contents?   10M
        or
    b) What is meant by certificate of incorporation and certificate of
        commencement of business?   10M
6. a) What are the different clauses of AOA?   4M
        or
    b) Write about prospectus.   4M
7. a) Explain various levels of management.   10M
        or
    b) Explain about Henry Fayol principles of management.   10M
8. a) Characteristics of management.   4M
        or
    b) Administration vs management.   4M
9. a) Explain various functions of management.   10M
        or
    b) Define planning & explain merits & demerits of planning.   10M
10. a) Define line & staff organization.   4M
        or
    b) Define organizing.   4M

* * *

AGSG

PRINCIPLES OF MANAGEMENT

No. of Pages: 01   Roll No: Max. Marks: 70M
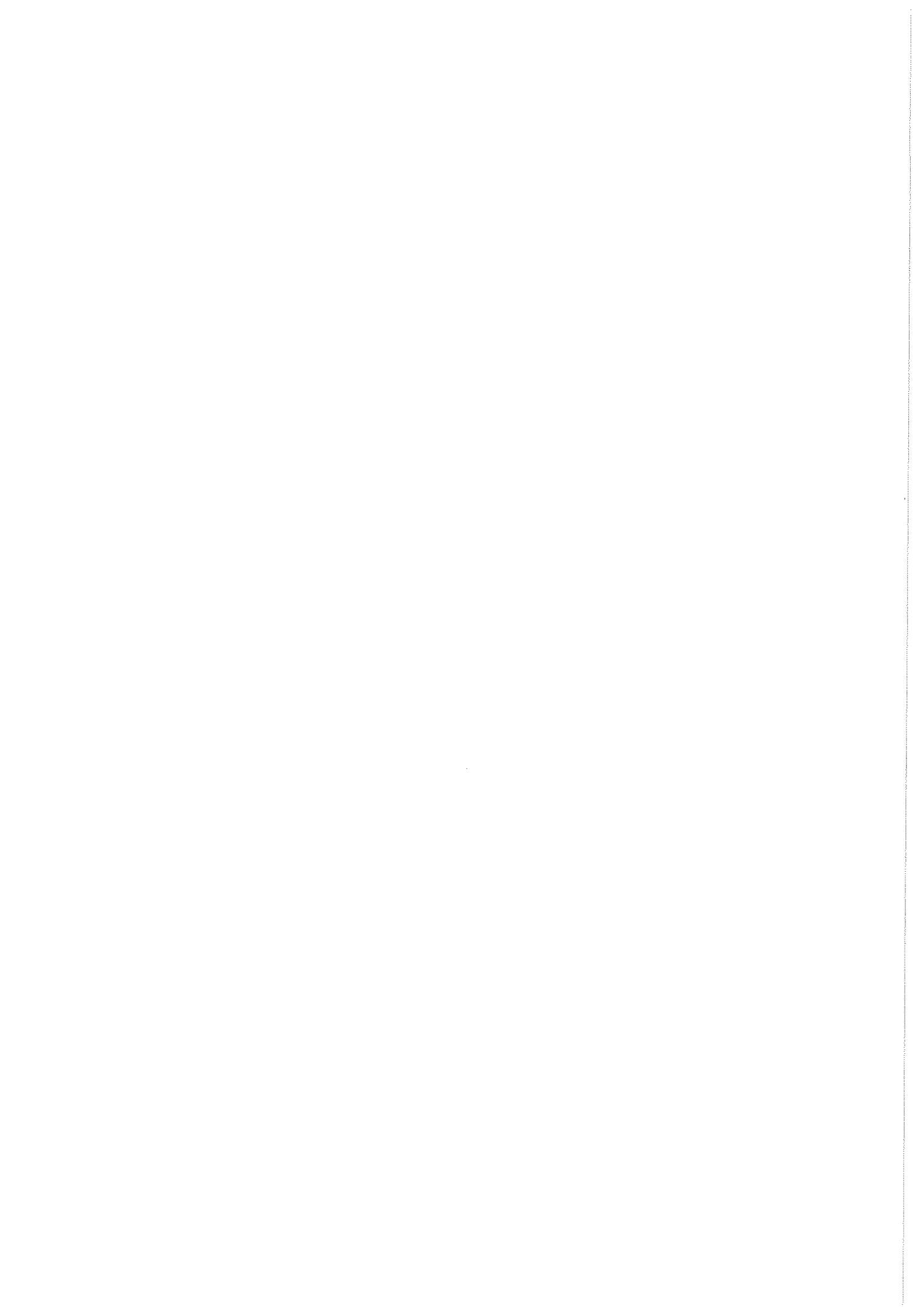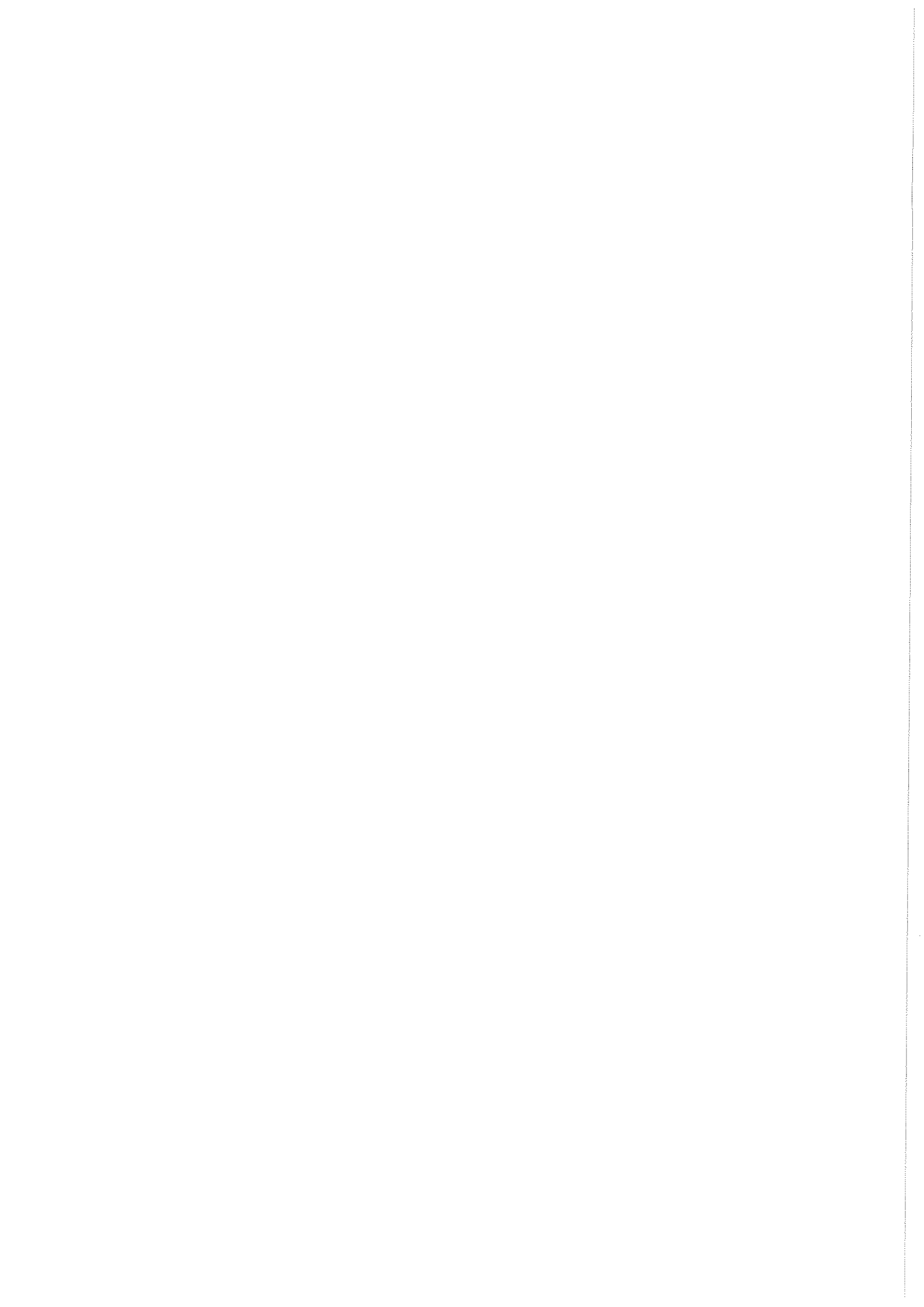Time: 3 Hrs   No. of Questions: 10 Pass Min.: 28M

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Answer the following:

1. a) What is management? Explain what are the functions of management? 10M

   or

   b) Describe briefly about various levels of management.   · 10M

2. a) Trends of management.   4M

   or

   b) Challenges of management.   4M

3. a) What is planning? Advantages and Disadvantages of planning.   10M

   or

   b) Explain about various types of plans in an organisation.   10M

4. a) Nature of Planning.   4M

   or

   b) Management By Objectives (MBO).   4M

5. a) Differences between centralization and decentralization.   10M

   or

   b) Define formal organisation. Explain advantages and disadvantages of
   formal organisation.   10M

6. a) Delegation of authority features.   4M

   or

   b) Line and Staff authority features.   4M

7. a) Define leadership. Explain various styles of leadership.   10M

   or

   b) Define communication. Explain barriers of effective communication. 10M

8. a) Maslow's need hierarchy theory.   4M

   or

   b) Process of communication.   4M

9. a) Explain various steps involved in the process of control.   10M

   or

   b) Define briefly about various non-budgetary tax control techniques. 10M

10. a) Features of quality control.   4M

    or

    b) Cost control techniques.   4M

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Mechanics, Waves & Oscillations

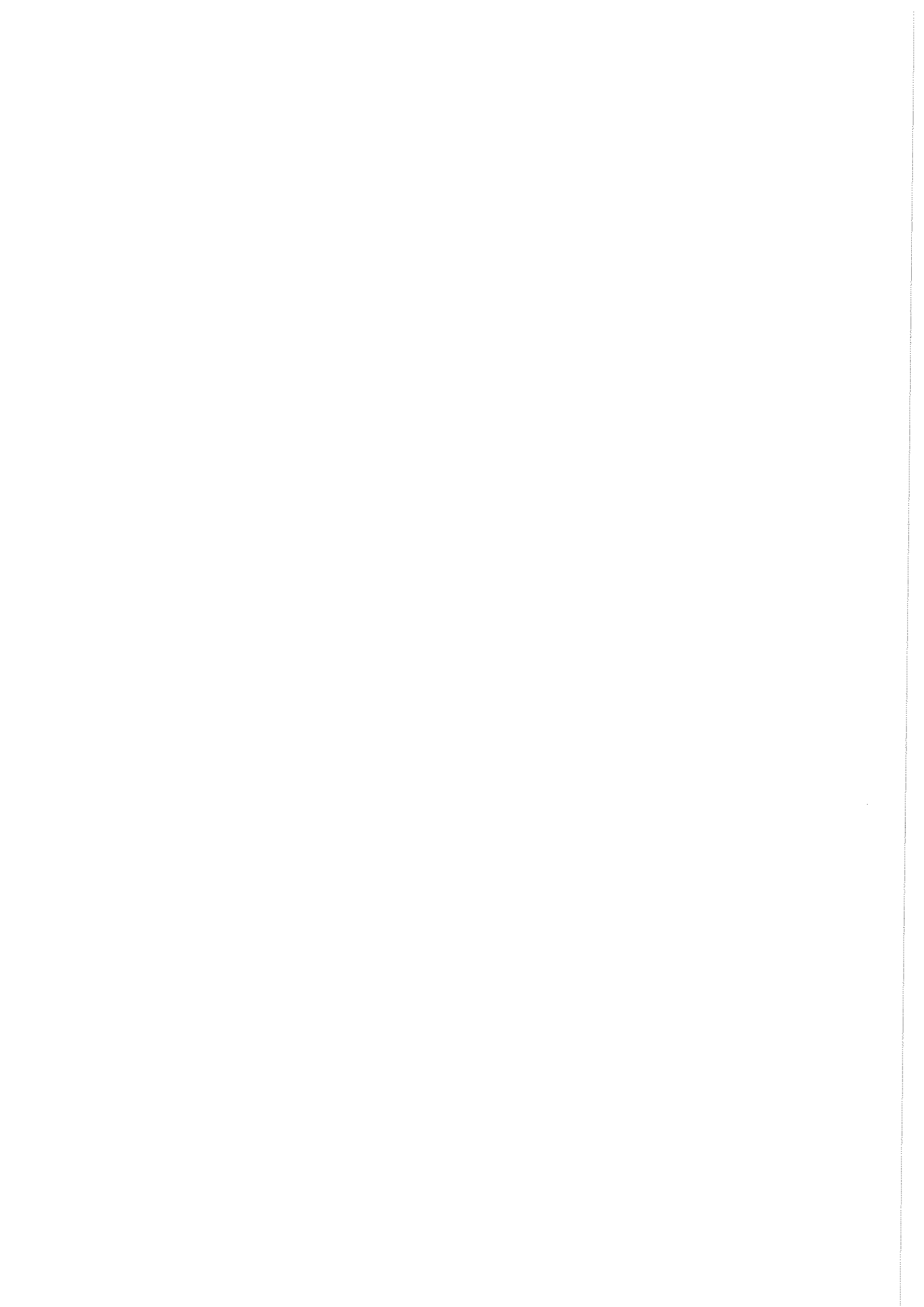No. of Pages: 01   Roll No: Max. Marks: 70M
Time: 3 Hrs   No. of Questions: 10   Pass Min.: 28M

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Answer the following:

1. a) Define impact parameter. Derive the relation between impact parameter and
       scattering angle.   10M

    or

    b) Derive Euler's equations of motion for a rigid body fixed at one point. Apply
       them to verify law of conservation of angular momentum.   10M

2. a) Explain about a multistage rocket.   4M

    or

    b) Write a brief note on gyroscope.   4M

3. a) State and prove Kepler's first law.   10M

    or

    b) Define central force and conservative force. Show that the central force is a
       conservative force.   10M

4. a) State and prove Kepler's third law from law of gravitation.   4M

    or

    b) If the Earth be half of its present distance from the Sun, find the number of
       days in a year?   4M

5. a) Describe Michelson – Morley experiment with necessary theory.
       What is the significance of negative result?   10M

    or

    b) State the postulates of special theory of relativity. Derive Lorentz
       transformations.   10M

6. a) What are inertial and non inertial frames of reference?   4M

    or

    b) Derive Einstein's mass energy relation.   4M

7. a) What are damped oscillations? Deduce the differential equation of a damped
       oscillator and find its solution. Discuss under damped motion.   10M

    or

    b) Analyse the wave represented by $y = 2a$ from $t=0$ to $t=T/2$ and $y=0$ from
       $t=T/2$ to $t=T$.   10M

8. a) Define logarithmic decrement and relaxation time.   4M

    or

    b) State Fourier's theorem. Give the expressions for Fourier coefficients.   4M

9. a) What are transverse waves? Derive the expression for velocity of a
       transverse wave in a stretched string.   10M

    or

    b) What are ultrasonics? Describe the method of producing them by
       magnetostriction method.   10M

10. a) Explain harmonics and overtones.   4M

    or

    b) Explain any two detection methods of ultrasonics.   4M

Descriptive Statistics & Theory of Probability

| No. of Pages: 02 | Roll No: | Max. Marks: 70M |
| Time: 3 Hrs | No. of Questions: 10 | Pass Min.: 28M |

****

Answer the following:

1. a) Define moments and Non – Central moments. Define Central moments in terms of Non – Central moments. **10M**

    or

    b) Compute the first four central moments to the following data and also find Sheppards correction, β_1 and β_2. **10M**

C.I	0-10	10-20	20-30	30-40	40-50	50-60	60-70
F	2	8	12	40	20	15	3

2. a) Write in detail about Kurtosis. **4M**

    or

    b) Write a short notes on Sheppard's correction. **4M**

3. a) State and prove Boole's inequalities. **10M**

    or

    b) Explain statistical and axiomatic definitions of probability and state and prove addition theorem for n events. **10M**

4. a) Define (i) Exhaistive events (ii) Independent events **4M**

    or

    b) If two dice are thrown, what is the probability that the Sun
    (i) greater than 7 and (ii) neither 6 nor 11. **4M**

5. a) It is 8:5 against the wife who is 40 years old living till she is 70 and 4:3 against her husband now 50 living till he is 80. Find the probability that
    (i) Both will be alive   (ii) None will be alive   (iii) Only wife be alive
    (iv) Only husband will be alive   (v) Only one will be alive
    (vi) At least one will be alive. **10M**

    or

    b) A and B throw alternatively with a pair of balanced dice. A wins if he throws a sum of six points before B throws a sum of seven points while B wins if he throws a sum of seven points before A throws a sum of six points. If A begins the game, show that his probability of winning is 30/61. **10M**

6. a) State and prove Baye's theorem. **4M**

    or

    b) In a bolt factory machines A,B and C manufactures 20%, 30% and 50% respectively of the total. Of their total output, 6%, 3% and 2% are defective. A bolt is drawn at random and found to be defective. Find the probabilities that it is found to be manufactured by machines A,B and C. **4M**

7. a) A continuous random variable X has the following density function.   **10M**
   $f(x) = AX^2, 0 \le x \le 1$
   i) Determine A   ii) Find probabilities
   A) $0.2 < x < 0.5$ B) X > ¾ given X > ½   C) ¼ < X < 1/2
                    or
   b) The joint probability density function of X & Y is given by   **10M**
        $f(x,y) = 1/8(6-x-y), 0 < X < 2.$
                        $2 < Y < 4.$
      Find (i) $P(X<1 \cap Y < 3)$
           (ii) $P(X+Y < 3)$
           (iii) $P(X < 1 / Y < 3)$

8. a) Define distribution function of a random variable and state its properties.
                                                                        4M

                    or
   b) Define Joint and Marginal distribution functions with properties.   **4M**
9. a) Explain the variance of linear combination of random variables.   **10M**
                    or
   b) i) Define MGF and CGF.   **10M**
      ii) State & prove Chebychev's inequality.

10. a) Define characteristics function of random variables and state its properties.
                                                                        4M

                    or
   b) State and prove Cauchy – Schwartz inequality.   **4M**

* * *

2

SECTION - A

Answer any **FOUR** of the following. Each question carries **FIVE** marks.   4x5=20M

1.   Discuss L - S and j - j coupling schemes.

      L-S మరియు J-J సంధానములను చర్చించండి.

2.   Explain about phase and group velocities.

      దశ మరియు సమూహ వేగాల గురించి వివరించండి.

3.   Give the physical significance of wave function.

      తరంగ ప్రమేయము యొక్క భౌతిక ప్రాముఖ్యతను రాయండి.

4.   Write a note on shell model.

      షెల్ మోడల్ పై లఘుటీక రాయండి.

5.   Write the applications of Superconductors?

      అతివాహకాల అనువర్తనాలను వ్రాయుము.

6.   State and explain Bragg's law.

      బ్రాగ్ నియమాన్ని పేర్కొనండి మరియు వివరించండి.

7.   A neutron breaks into a proton and electron. Calculate the energy produced in this reaction in MeV. Mass of electron $= 9 \times 10^{-31}$ kg. Mass of proton $= 1.6725 \times 10^{-27}$ kg. Mass of neutron $= 1.6747 \times 10^{-27}$ kg. Speed of light $= 3 \times 10^{8} m / sec.$

      ఒక న్యూట్రాన్ ప్రోటాన్ మరియు ఎలక్ట్రాన్గా విడిపోతుంది. MeVలో ఈ చర్యలో ఉత్పత్తి చేయబడిన శక్తిని లెక్కించండి. ఎలక్ట్రాన్ ద్రవ్యరాశి $= 9 \times 10^{-31}$ kg. ప్రోటాన్ ద్రవ్యరాశి $= 1.6725 \times 10^{-27}$ kg. న్యూట్రాన్ ద్రవ్యరాశి $= 1.6747 \times 10^{-27}$ kg. మరియు కాంతి వేగం $= 3 \times 10^{8} m / sec.$

8.   If the uncertainity in position of an electron is $4 \times 10^{-10} m$, calculate the uncertainity in its momentum.

      ఎలక్ట్రాన్ స్థానంలో అనిశ్చితి $4 \times 10^{-10} m$ అయితే, దాని ద్రవ్యవేగములోని అనిశ్చితిని లెక్కించండి.

|1|

Answer any <u>FIVE</u> of the following. Each question carries <u>TEN</u> marks.   5x10=50M

9.   Describe vector atom model and explain the different quantum numbers associated with it.

వెక్టార్ అణువు నమూనాను వివరించండి మరియు దానితో అనుబంధించబడిన వివిధ క్వాంటం సంఖ్యలను వివరించండి.

10.   What is Raman effect? Describe an experimental set-up to study Raman effect.

రామన్ ప్రభావం అంటే ఏమిటి? రామన్ ప్రభావాన్ని అధ్యయనం చేయడానికి ఒక ప్రయోగాత్మక మార్గము వివరించండి.

11.   Describe the experiment of Davisson and Germer for the study of electron diffraction.

ఎలక్ట్రాన్ వివర్తన అధ్యయనం కోసం డేవిస్సన్ మరియు జెర్మర్ చేసిన ప్రయోగాన్ని వివరించండి. ప్రయోగం యొక్క ఫలితాలను చర్చించండి.

12.   Derive Schrodinger Time dependent wave equation.

ష్రోడింగర్ సమయ ఆధారిత తరంగ సమీకరణాన్ని ఉత్పాదించండి.

13.   Apply Schrodinger wave equation to a particle moving in an one-dimensional potential box of infinite height and find the energy levels.

ష్రోడింగర్ తరంగ సమీకరణము అనంతమైన ఎత్తులో ఉన్న ఒక డైమెన్షనల్ పొటెన్షియల్ బాక్స్‌లో కదులుతున్న కణానికి వర్తింపజేయండి. మరియు శక్తి స్థాయిలను కనుగొనండి.

14.   Explain the basic properties of nucleus with reference to mass, charge, radius, density, quantum states, nuclear spin, magnetic dipole moment, electric quadra pole moment.

ద్రవ్యరాశి, చార్జ్, వ్యాసార్ధం, సాంద్రత, క్వాంటం స్థితులు, న్యూక్లియర్ స్పిన్, మాగ్నెటిక్ డైపోల్ మూమెంట్, ఎలక్ట్రిక్ క్వాడ్రా పోల్ మూమెంట్‌కి సంబంధించి కేంద్రకం యొక్క ప్రాథమిక లక్షణాలను వివరించండి.

15.   Explain about powder diffraction method for analysis of crystal structure.

స్పటిక నిర్మాణం యొక్క విశ్లేషణ కోసం పౌడర్ వివర్తన పద్ధతి గురించి వివరించండి.

16.   What is Superconductivity? Explain in detail about Type-I and Type-II superconductors.

అతివాహకము అంటే ఏమిటి? టైప్ I మరియు టైప్ II అతివాహకాల గురించి వివరించండి.

AG & SG Siddhartha Degree College of Arts & Science (AUTONOMOUS)
VUYYURU - 521 165.

No. of Pages : 01   Question Paper   No. of Questions : 16

Course Code (s) :...........41..................   SEM - IV   DD/MM/YY : | 0 | 2 | 0 | 2 | 2 | 0 | 2 | 4 |

Subject :...........ZOOLOGY..............   Paper Code :......ZOO - 402........   Min Marks : 28

Title of the Paper : ......Immunology and Animal Biotechnology......................

Time : 3:00 Hrs.   Regd. No : | | | | | | | Max Marks : 70

SECTION – A

Answer any **FOUR** of the following questions.   4X5=20M

(Draw neat labelled diagrams wherever necessary)

1. Basic Concepts of Immunology - రోగ నిరోధక శాస్త్రం యొక్క ప్రాధమిక అంశాలు
2. Structure of Antibody - ప్రతిరోధకాల యొక్క నిర్మాణం
3. Natural and Synthetic media - సహజ మరియు సింథటిక్ మీడియా.
4. Organ Culture - అవయవ అభివృద్ధి.
5. Transgenic Sheep - జన్యు మార్పిడి గొర్రెలు
6. Super Ovulation - సూపర్ అండోత్సర్గము
7. Types of Fermentation - కిణ్వ ప్రక్రియ రకాలు
8. Polyploidy in Fishes - చేపలలో పాలిప్లాయిడి.

SECTION – B

Answer any **FIVE** of the following questions.   5X10=50M

(Draw neat labelled diagrams wherever necessary)

9. Discuss the Organs of Immune system.

రోగనిరోధక వ్యవస్థ యొక్క అవయవాల గురించి వివరించండి.

10. Explain an Innate Immunity and Adaptive Immunity.

సహజమైన రోగనిరోధక శక్తి మరియు అనుకూల రోగనిరోధక శక్తిల గురించి వివరించండి.

11. Write the Exogenous and Endogenous pathway of antigen presentation and processing.

యాంటిజెన్ల ప్రదర్శన మరియు ప్రాసెసింగ్ యొక్క ఎక్సోజనస్ మరియు ఎండోజనస్ మార్గం గురించి రాయండి.

12. Explain the Hypersensitivity - classification and its Types.

హైపర్సెన్సిటివిటీ యొక్క వర్గీకరణ మరియు రకాలు గురించి వివరించండి.

13. Define Hybridoma Technology? Elaborate the process of production and application of Monoclonal antibodies by hybridoma technology.

హైబ్రిడోమా టెక్నాలజీని నిర్వచించండి? దాని ద్వారా మోనోక్లోనల్ యాంటీ బాడిస్ ఉత్పత్తి మరియు అప్లికేషన్ ప్రక్రియను విశదీకరించండి.

14. Explain briefly the Primary and Secondary cultures. Describe Cell lines types with suitable examples.

ప్రైమరీ మరియు సెకండరీ సెల్ కల్చర్ గురించి క్లుప్తంగా వివరించండి. సరియైన ఉదాహరణలతో సెల్ లైన్లు రకాల గురించి రాయండి.

15. Explain different types of vectors in Biotechnology.

బయోటెక్నాలజీలోని వివిధ రకాల వెక్టర్లను వివరించండి.

16. Write the DNA finger printing procedure and applications.

DNA వేలిముద్రల ప్రక్రియ మరియు అనువర్తనాలపై ఒక వ్యాసం ప్రాయండి.
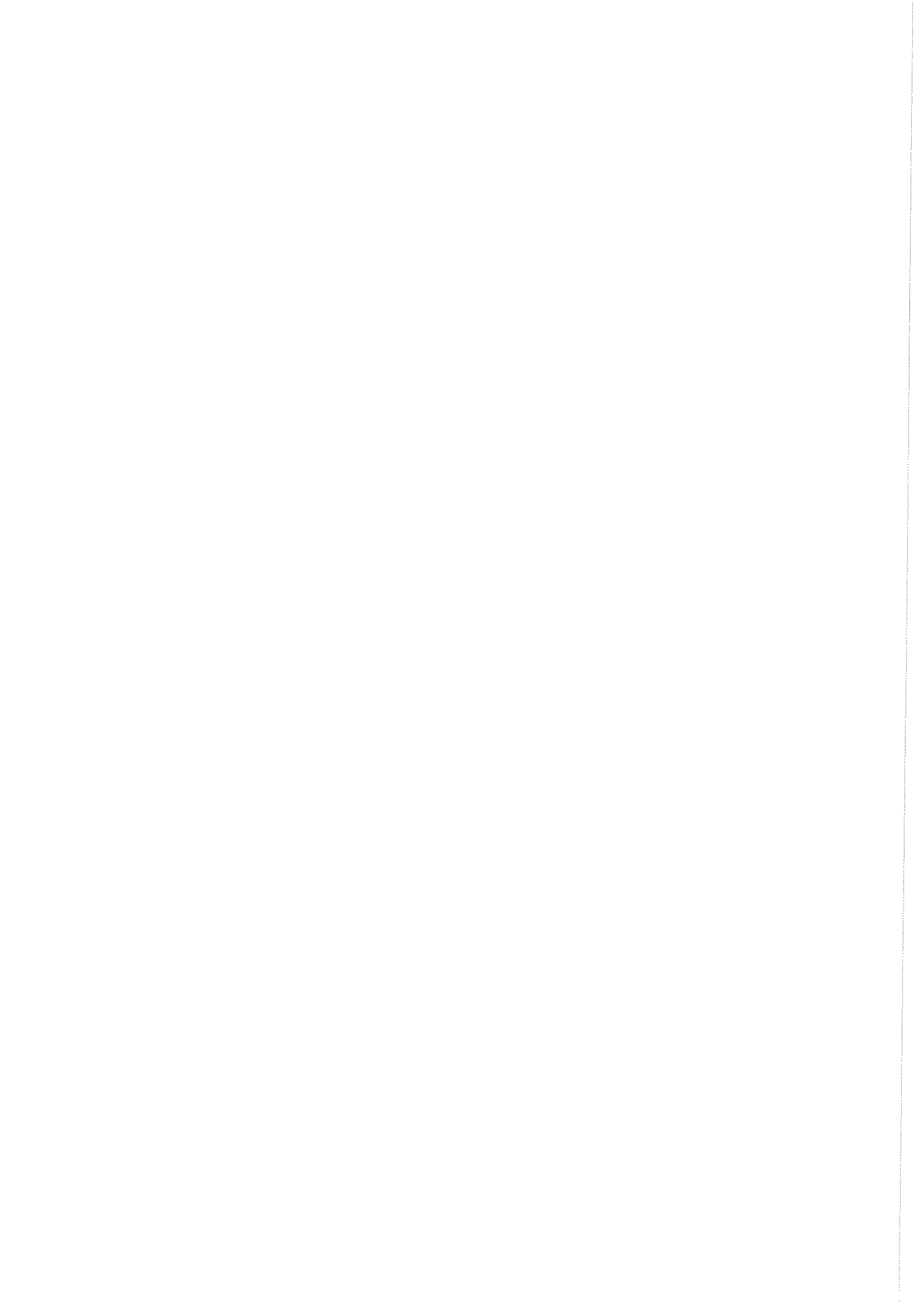
Insurance Services

No. of Pages: 01   Roll No: **Max. Marks: 75M**
Time: 3 Hrs   **No. of Questions: 13**   **Pass Min.: 30M**

****

Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Write about risk classification.
2. What are the features of life insurance?
3. What are the benefits of group insurance policies?
4. Write about general insurance.
5. Discuss about health insurance.
6. Write about premium payment.
7. Explain the customer satisfaction.
8. Grievances. Explain.

Section B

Answer the following: 5 x 10 = 50M

9. a) Explain the scope of insurance business in India.

   or

   b) Explain the role of IRDA.

10. a) Write about the major life insurance business in India.

    or

    b) Explain the importance of life insurance policies.

11. a) Write about the major general insurance policies.

    or

    b) Explain the major health insurance product.

12. a) Explain the insurance contract and terms of insurance policy.

    or

    b) Explain important websites and APPs of insurance in India.

13. a) Explain the ethical behaviour in insurance.

    or

    b) Write about understanding customer mindset and satisfaction.

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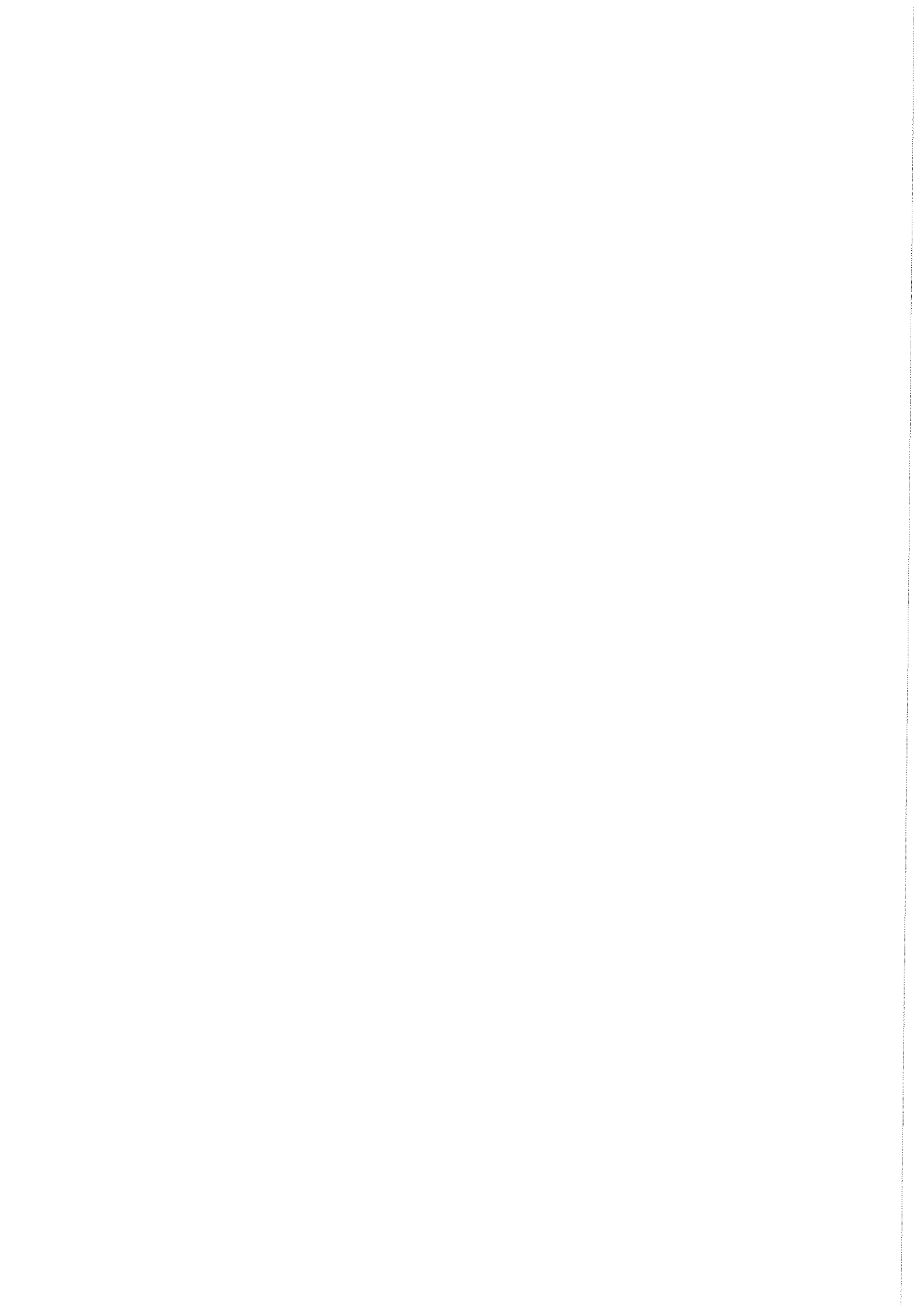
COM SET04 / 03-02-2024

Digital Marketing

No. of Pages:1   Roll No.:   Max. Marks: 75M

Time: 3 Hrs.   No. of Questions: 13   Pass Min.   : 30M

SECTION A

Answer any FIVE of the following: 5 x 5 = 25M

1. Explain online micro environment.

2. State the importance of digital marketing.

3. Enlist website objectives.

4. What is SEO?

5. Explain search engine marketing campaign.

6. Write about social media tools.

7. Trace evolution of e-mail.

8. Need of tracking emails.

SECTION B

Answer the following: 5 x 10 = 50M

9. a) Explain traditional online marketing Vs digital marketing.
   OR
   b) What are the advantages and disadvantages of digital marketing?

10. a) Explain the process of website creation.
    OR
    b) Enlist the components of website.

11. a) Explain on page optimization and off page optimization.
    OR
    b) Explain role of search engine operation.

12. a) Detail use of different social media platforms.
    OR
    b) Explain: a) Blogging and   b) Guest blogging.

13. a) Elaborate development and advancements in email marketing.
    OR
    b) Explain e- mail marketing platforms.

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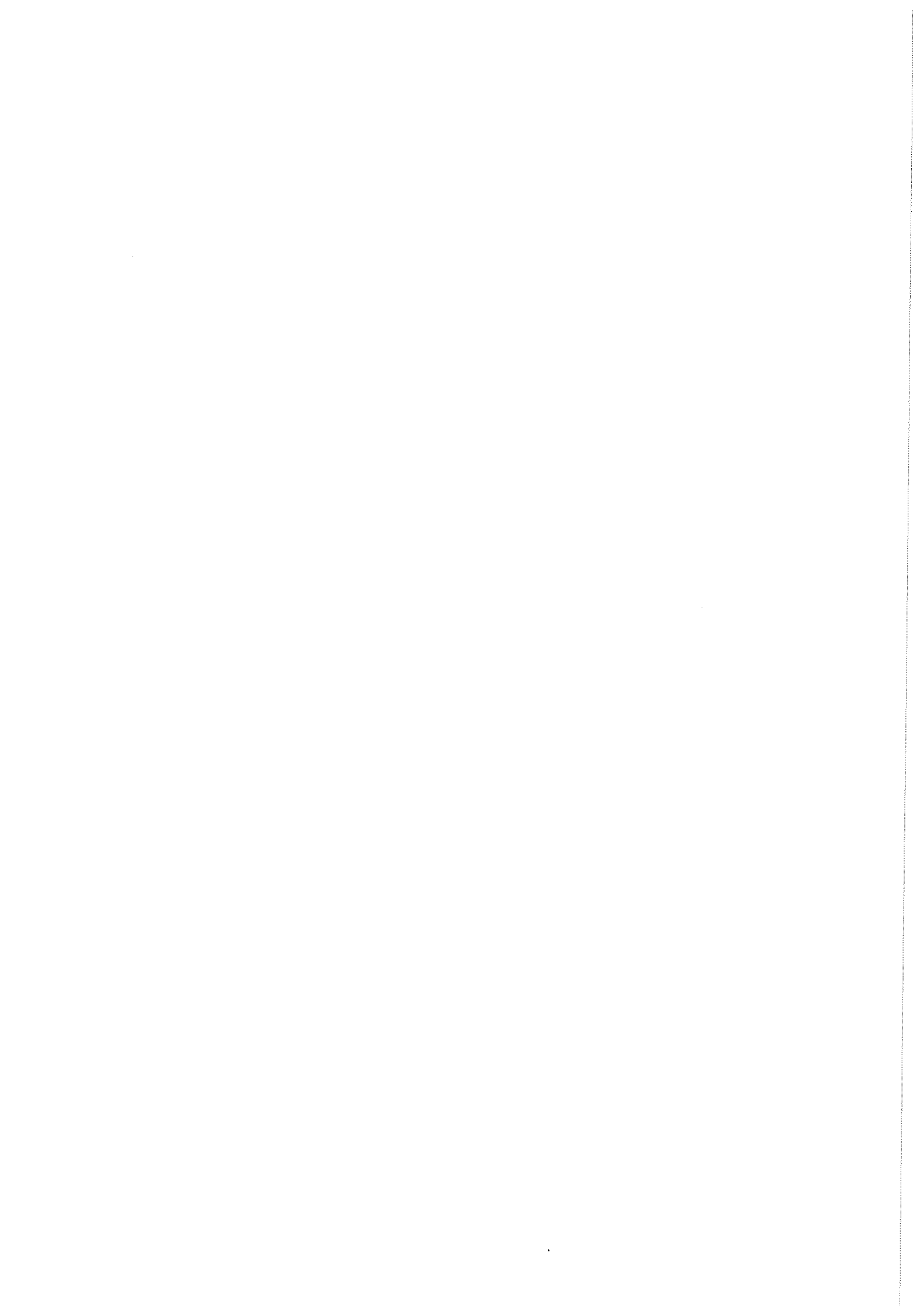
ANALYTICAL METHODS IN CHEMISTRY-I

No. of Pages: 01	**Roll No:**	**Max. Marks: 75M**
Time: 3 Hrs	**No. of Questions: 13**	**Pass Min.: 30M**

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Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Define the terms molarity and normality.
2. Explain complexometric titrations.
3. Write about digestion and filtration.
4. Define significant figures and confidence limits.
5. What is precision? Write briefly on expressing methods of precision.
6. Explain about batch extraction.
7. Write about synergism.
8. Write the determination of Glucose in blood.

Section B

Answer the following: 5 x 10 = 50M

9. a) Explain the preparation of primary standard and secondary standard solutions.

    or

    b) Write about:
      i) Burette, pipette
      ii) Volumetric flask and measuring cylinders.

10. a) Explain the Ostwald's and Quinoid theories of acid-base titrations.

    or

    b) Describe coprecipitation and post precipitation.

11. a) What is errors? Explain the types of errors.

    or

    b) What is accuracy? Explain the methods of expressing accuracy.

12. a) Write about continuous extraction and counter current extraction.

    or

    b) Explain ion exchange resin method and write its applications.

13. a) State Beer-Lambert's law. Write the derivation of Beer-Lambert's law.

    or

    b) Write the principle and instrumentation of double beam spectrophotometer. Explain the determination of Mn^{+2} ion by spectrophotometric method.
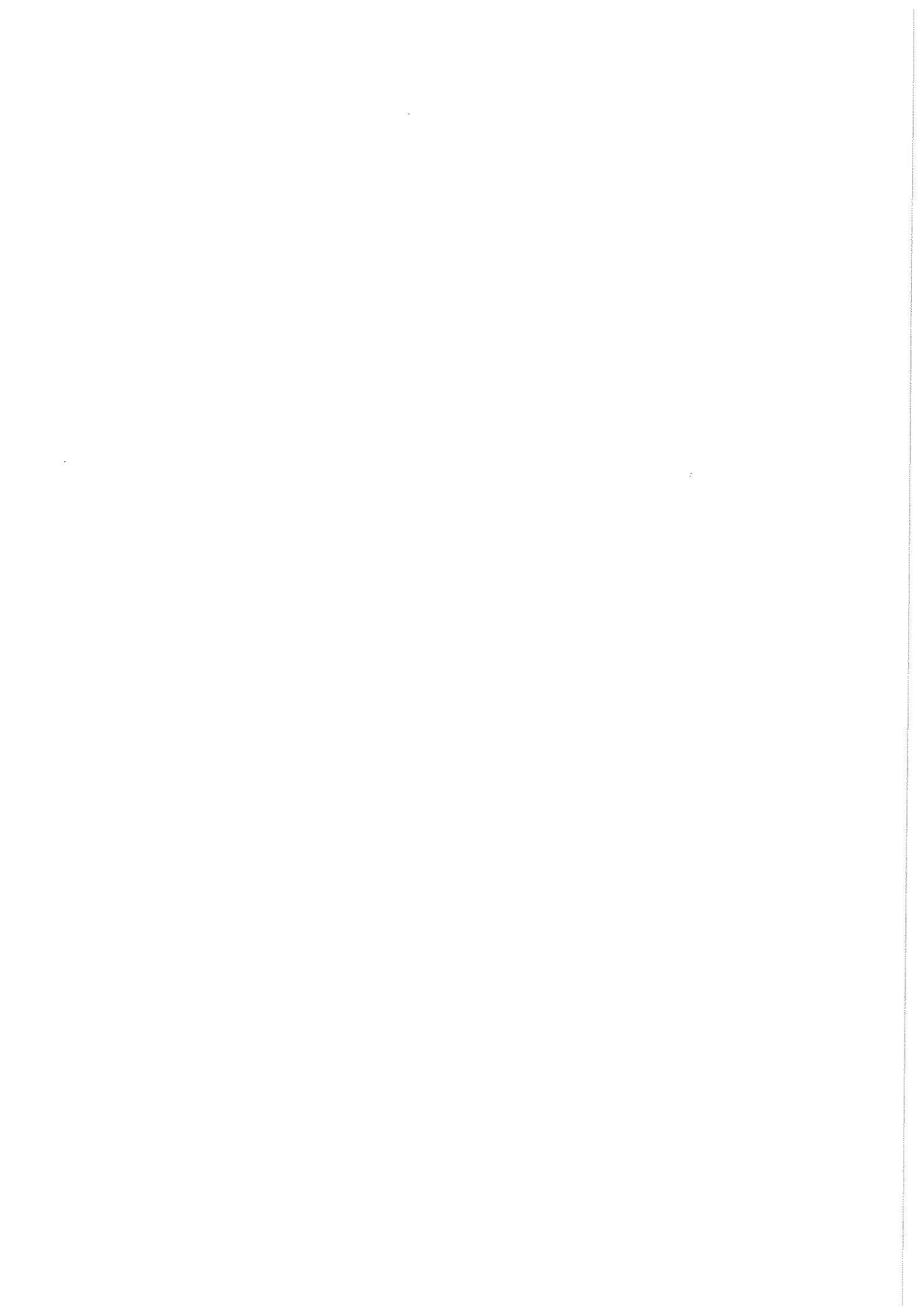
* * *

1

WEB INTERFACE DESIGNING TECHNOLOGIES

No. of Pages: 02	**Roll No:**	**Max. Marks: 75M**
Time: 3 Hrs	**No. of Questions: 13**	**Pass Min.: 30M**

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Section A

Answer any FIVE of the following: 5 x 5 = 25M

1. Mention ordered list and unordered list related tags and their attributes with suitable examples.
2. Design the following table using table tag.

Student Marks Sheet			
Name	**Maths**	**Science**	**English**
David	23	89	56
Siri	45	45	66
Richard	56	34	78
Tony	23	66	89
Scott	90	78	45
Total	237	312	334

3. Why is it important to handle the dragover and drop events separately when implementing drag and drop functionality.
4. List the three different ways to declare a variable in java script.
5. Give the syntax of any five mathematical functions available in java script.
6. What is the role of namespaces in XML?
7. Give the purpose of declaring an element in a DTD.
8. What is Bitnami and how does it relate to the installation and management of word press?

Section B

Answer the following: 5 x 10 = 50M

9. a) Design a Webpage for registration form with the following fields.
   i) Text field   ii) Password   iii) Radio button
   iv) Check box   v) Dropdown list.

   or

   b) Mention the various form elements. Explain each element with their attributes and use.

WEB INTERFACE DESIGNING TECHNOLOGIES

10. a) Demonstrate the types of style sheets with suitable examples.

or

    b) Create a simple web page that uses the Geolocation API to display the user's current latitude and longitude.

11. a) Develop an HTML program to collect details of student like name, age, mobile number, CGPA using HTML Form and do the validations.

or

    b) Write a java script program to create, access arrays and objects.

12. a) Compare and contrast DTD (Document Type Definition) and XSD (XML Schema Definition) in terms of their features and use cases.

or

    b) Design an XML schema for a product catalog that includes both simple and complex types to represent different product attributes.

13. a) How does word press handle the deletion of media files, and what happens when a file is deleted permanently?

or

    b) Demonstrate how to create a new menu and add pages to it in word press.

* * *

SECTION - A

Answer any **FOUR** of the following. Each question carries **FIVE** marks.   4x5=20M

1.   Why alkyl halides are more reactive than vinyl halides explain it.

ఆల్కైల్‌హాలైడుల చర్యాశీలత, వినైల్‌హాలైడుల కంటే ఎక్కువగా వుంటుంది. ఎందుకు? దానిని గూర్చి వివరింపుము.

2.   Explain Kolbes - Schmidt reaction with example.

కోల్బే – ష్మిట్జ్ చర్యను ఉదాహరణ ద్వారా వివరింపుము.

3.   Give wittig and perkin reaction with examples.

విట్టిగ్ మరియు పెర్కిన్ చర్యలను ఉదాహరణ ద్వారా తెల్పండి.

4.   Explain Huns - Dicker reaction with example.

హన్స్-డీకర్ చర్యను ఉదాహరణ ద్వారా వివరింపుము.

5.   What is keto-enol tautomerism? Explain it.

కీటో – ఇనాల్ టాటోమెరిజం అంటే ఏమిటి? దానిని వివరింపుము.

6.   Write a short note on double beam spectrophotometer.

ద్విగుణ కిరణపుంజ వర్ణపటమాపకమును గూర్చి బ్రాయుము.

7.   Define and derive Beer - Lambert's law.

బీర్ – లాంబర్ట్ నియమాన్ని నిర్వచించి, దానిని ఉత్పాదింపుము.

8.   Write short notes on Chemical shift.

రసాయన స్థానాంతరణము ను గూర్చి లఘు వ్యాఖ్య బ్రాయుము.

1

Answer any __FIVE__ of the following. Each question carries __TEN__ marks.   5x10=50M

9.   Explain SN^2 reaction mechanism with suitable example. and give it's stereo Chemistry.
     SN^2 న్యూక్లియోఫిలిక్ ప్రతిక్షేపణ చర్యా విధానాన్ని వివరించండి. మరియు దాని స్టీరియో కెమిస్ట్రీని తెల్పండి.

10. Write the following reaction mechanisms.
     i)   Reimer - Tieman reaction
     ii)   Pinacol - Pinacolone rearrangement
     ఈ క్రింది వాటి యొక్క రసాయన చర్యా విధానాన్ని వ్రాయండి.
     i)   రైమర్ – టైమన్ చర్య
     ii)   పినకోల్ – పినకలోన్ పునరమరిక చర్య

11. Explain the following reaction mechanisms.
     i)   Aldol Condensation and
     ii)   Cannizzaro reaction
     ఈ క్రింది వాటి యొక్క రసాయన చర్యా విధానాన్ని వివరింపుము.
     i)   ఆల్డాల్ సంఘనన చర్య
     ii)   కెన్నిజరో చర్య

12. What is HVZ reaction? Explain alkaline hydrolysis of esters.
     HVZ చర్య అనగానేమి? ఎస్టరుల యొక్క క్షార జల విశ్లేషణా చర్యా విధానాన్ని వ్రాయండి.

13. How to prepare malonic ester from acetic acid? Write any 3 synthetic applications of malonic ester.
     ఎసిటిక్ ఆమ్లము నుండి మెలోనిక్ ఎస్టరును ఏవిధంగా తయారు చేస్తారు? మెలోనిక్ ఎస్టర్ల యొక్క ఏదైనా మూడు సంశ్లేషణ అనువర్తనాలను వ్రాయండి.

14. Discuss on concept of chromophore and Auxochrome with suitable example.
     వర్ణధారిణి మరియు వర్ణప్రవర్ధిణిని సరియైన ఉదాహరణల ద్వారా చర్చింపుము.

15   Give the principle of NMR spectrum. Explain 1,1,2 tribromoethane NMR Spectrum.
     NMR యొక్క సూత్రాన్ని తెలుపుము. 1, 1, 2 ట్రైబ్రోమోఈథేన్ యొక్క NMR వర్ణపటాన్ని గూర్చి వివరింపుము.

16. Explain wood ward - Selection rules. How to calculate λ_{max} of conjugated dienes with example.
     ఉడ్వర్డ్ ప్రాథమిక నియమములను తెలుపుము. సంయుగ్మ డయాన్‌ల యొక్క λ_{max} ఏ విధంగా కనుగొంటారో ఉదాహరణల ద్వారా తెల్పండి?

2

SECTION – A

Answer any **FOUR** questions. Each question carries **FIVE** marks.   4x5=20M

1. Explain the Data types in C.

2. Define Flow chart in C?

3. Define go to statement in C with an example?

4. Explain call - by - value with an example program.

5. Explain one - dimensional array with an example.

6. Define pointers in C. Explain how to declare pointer variable.

SECTION – B

Answer any **FIVE** questions. Each question carries **TEN** marks.   5x10=50M

7. Explain different types of programming languages.

8. Briefly explain the structure of C program.

9. Explain the conditional statement in C.

10. Briefly explain the nested loops in C with an example program.

11. Explain the storage classes.

12. Explain the Recussion in C with an example program.

13. Briefly explain the string character functions in C with an example program.

14. Define Enumerated Data types with examples?
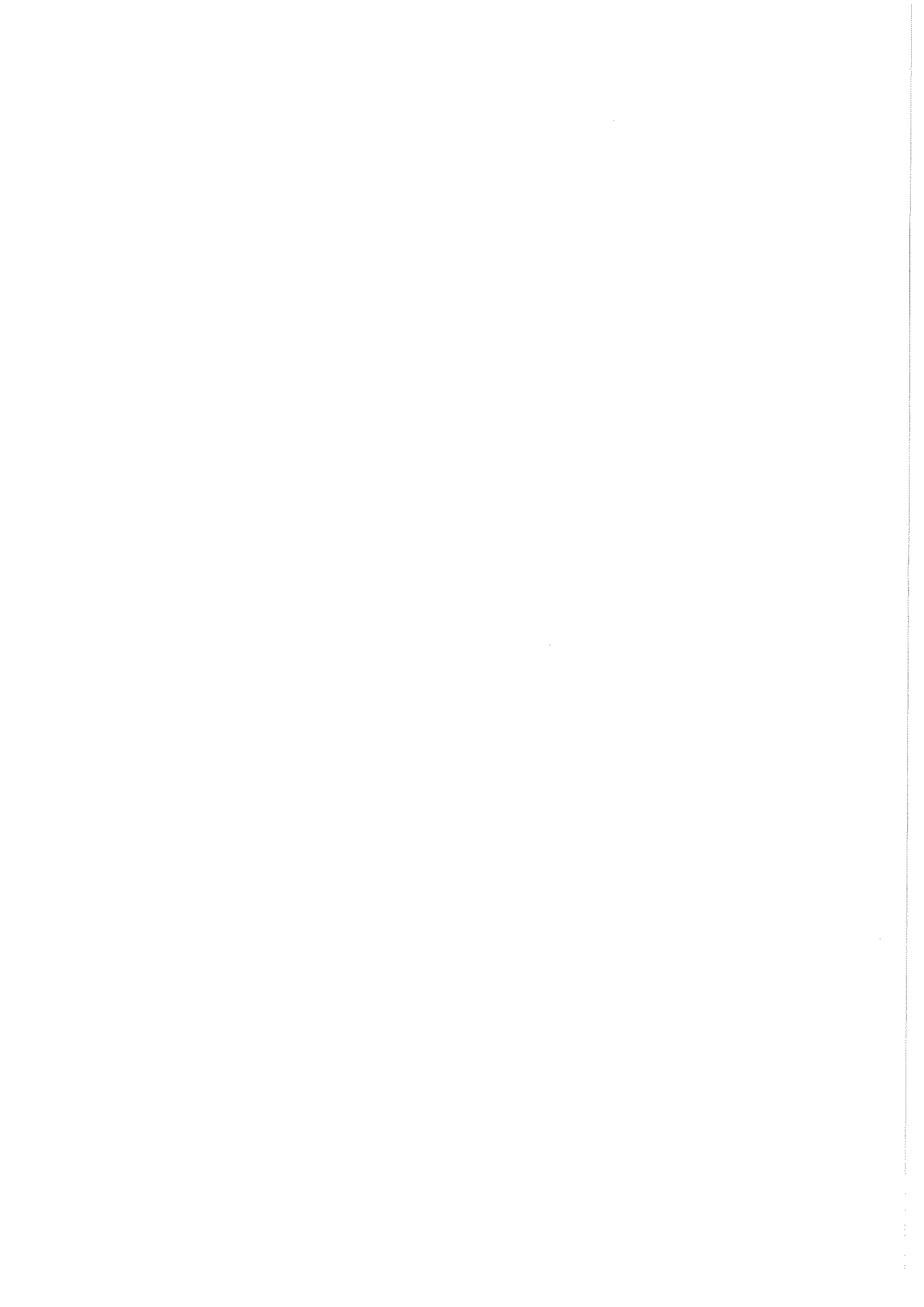
Micro Economic Analysis

No. of Pages: 01	Roll No:	Max. Marks: 70M
Time: 3 Hrs	No. of Questions: 10	Pass Min.: 28M

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Answer the following:

1. a) Explain Robbins scarcity definition.   10M

   or

   b) Discuss the differences between micro and macro economics.   10M

2. a) Deductive method.   4M

   or

   b) Production possibility curve.   4M

3. a) Explain the types of price elasticity of demand.   10M

   or

   b) What is meant by Law of demand and what are its limitations?   10M

4. a) Properties of indifference curve.   4M

   or

   b) Point method.   4M

5. a) Discuss about Law of variable proportions.   10M

   or

   b) Explain the short run cost curves.   10M

6. a) Explain returns to scale.   4M

   or

   b) What is meant by TR; AR; MR?   4M

7. a) Explain price determination in perfect competition.   10M

   or

   b) Explain the features and price determination in monopoly.   10M

8. a) Features of monopolistic competition.   4M

   or

   b) Classification of markets.   4M

9. a) Explain the Ricardian theory of Rent.   10M

   or

   b) Discuss about Keynes liquidity preference theory of interest.   10M

10. a) Modern theory of wages.   4M

    or

    b) Uncertainty theory of profits.   4M

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