



SEE-AUGUST-2023

HIST31A / 16-08-2023

Modern Indian History & Culture (1764-1947) 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. Waran hastings.
2. Doctrine of Lapse.
3. Raja Ramohan Roy.
4. A.O. Hume.
5. Muslim League.
6. Puna pact.
7. Swaraj party.
8. Indian Independence Act.

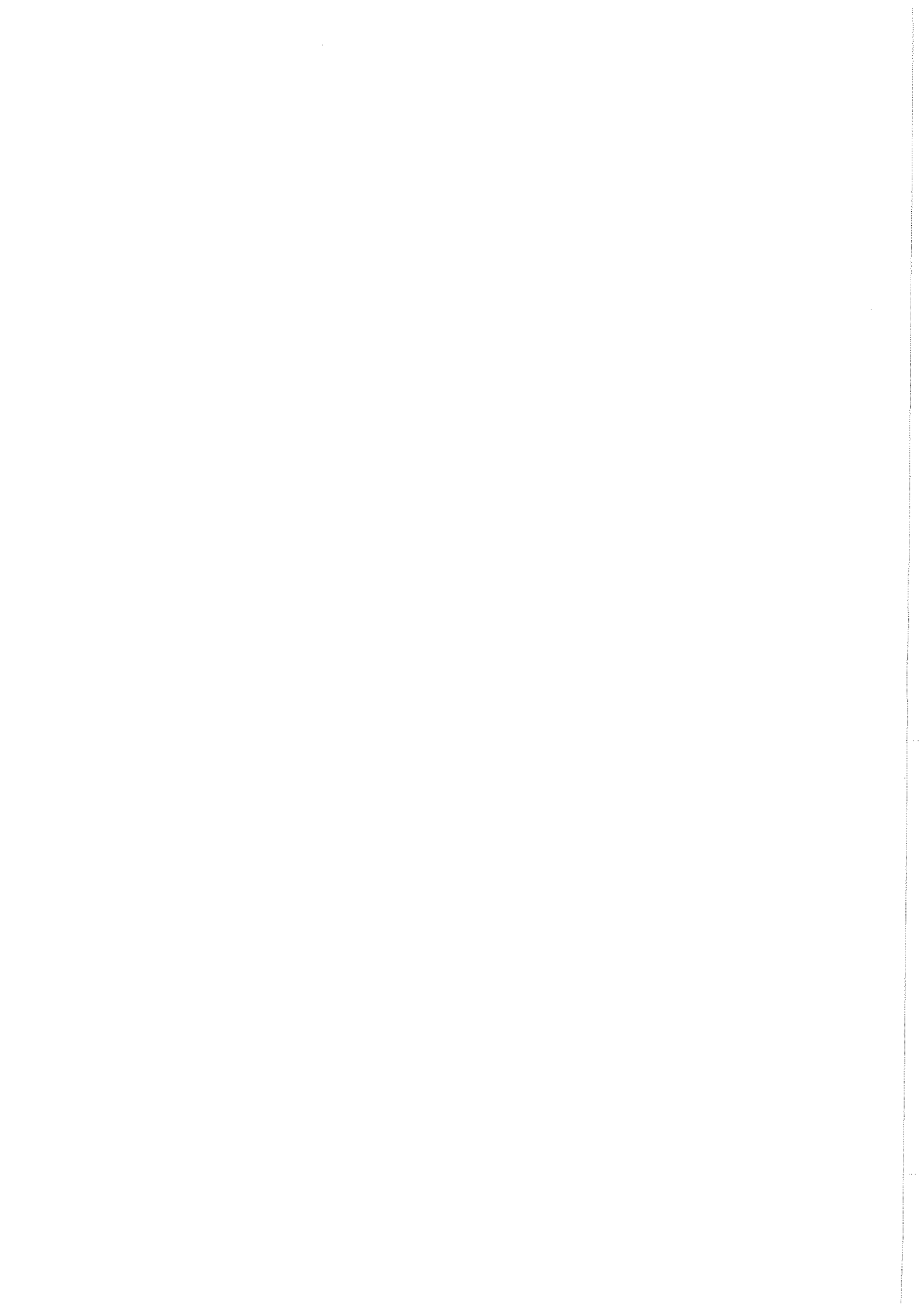
Section B

Answer the following:

5 x 10 = 50M

9. a) What are the causes of 1857 Revolt?
or
b) Write an essay on Arya Samajam.
10. a) Write about Self Respect Movement.
or
b) Explain the causes for the growth of nationalism.
11. a) Write about Vandematra movement in India.
or
b) Describe the Home Rule movement in India.
12. a) Explain the Gandhiji role in the National Movement.
or
b) Write about Subhash Chandra Bose.
13. a) What are the causes for the growth of communalism?
or
b) Write an essay on Sardar Vallabhai Patel.

* * *



Advanced Accounting

No. of Pages: 03

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 subscriptions? Explain.
2. Explain Legacies.
3. Write about accounting from Incomplete Records.
4. Explain the features of Higher Purchases.
5. What is partnership deed?
6. Define installment system.
7. What is Good – will? Define it.
8. What is Insolvency?

Section B

Answer the following:

5 x 10 = 50M

9. a) Distinguish between Income and expenditure account and receipts and payments account.
or
- b) Below given is the receipts and payments account of a club. Prepare income and expenditure a/c from it and sub – joined information for the year ended 31st December 2019.

Receipts and Payments a/c

Receipts	Rs.	Payments	Rs.
To Balance b/d	1238	By General expenses	542
To Subscriptions	1630	By Salaries	550
To Life membership fee	250	By Furniture	800
To Entrance fee	200	By Rent	560
To Repairs income	233	By Printing expenditure	125
To Interest	40	By Repairs	150
		By Balance c/d	864
	3591		3591

On 31st December 2019 subscriptions in arrears amounted to Rs.350 and Rs.100 is to be written off as depreciation on furniture.

contd....(2)

Advanced Accounting

10. a) Distinguish between Single Entry System and Double Entry System.

or

b) A keeps his book according to single entry system. Find out the profit for the year ending 31st March 2019:

Particulars	1-4-2018(Rs.)	31-3-2019(Rs.)
Creditors	2000	4500
Bank	500	1000
Debtors	2500	6500
Stock	3000	5000
Furniture	1000	1000

11. a) What are the differences between hire purchase and installment purchase system?

or

b) A Railway Company purchased wagons on hire purchase system over a term of 2 years starting on 1-1-2019. The installment of Rs.4,000 each payable half yearly. The cash price of the wagon is Rs.14,870 and the wagons company charges interest at the rate of 6% p.a. Books are closed every year on 31st December. Write the necessary ledger accounts in the books of Railway Company. The first installment is paid on 30-6-2019.

12. a) What do you understand by fixed and fluctuating capitals of partnership?

or

b) The following is the Balance Sheet of Anil and Sunil who share profits in the ratio of 3:2.

Liabilities	Rs.	Assets	Rs.
Anil's capital	10,000	Debtors	11,000
Sunil's capital	8,000	Buildings	8,000
Creditors	12,000	Plant	10,000
General reserve	16,000	Stock	12,000
Work men's compensation fund	4,000	Cash	9,000
	50,000		50,000

They agreed to admit Vinil on the following terms:

- i) the value of buildings to be increased to Rs.18,000.
- ii) The value of stock to be increased to Rs.16,000.
- iii) The liability on work men's compensation fund was determined at Rs.2,000.

contd....(3)

Advanced Accounting

- iv) Vinil contributes Rs.10,000 in cash towards goodwill.
 v) Vinil has to bring further cash as would make her capital equal to 20% of the combined capital of Anil and Sunil after all adjustments.

Show the necessary ledger accounts in the books of the firm and prepare new Balance Sheet after Vinil's admission.

13. a) Briefly explain the rule in Garner vs Murray case.

or

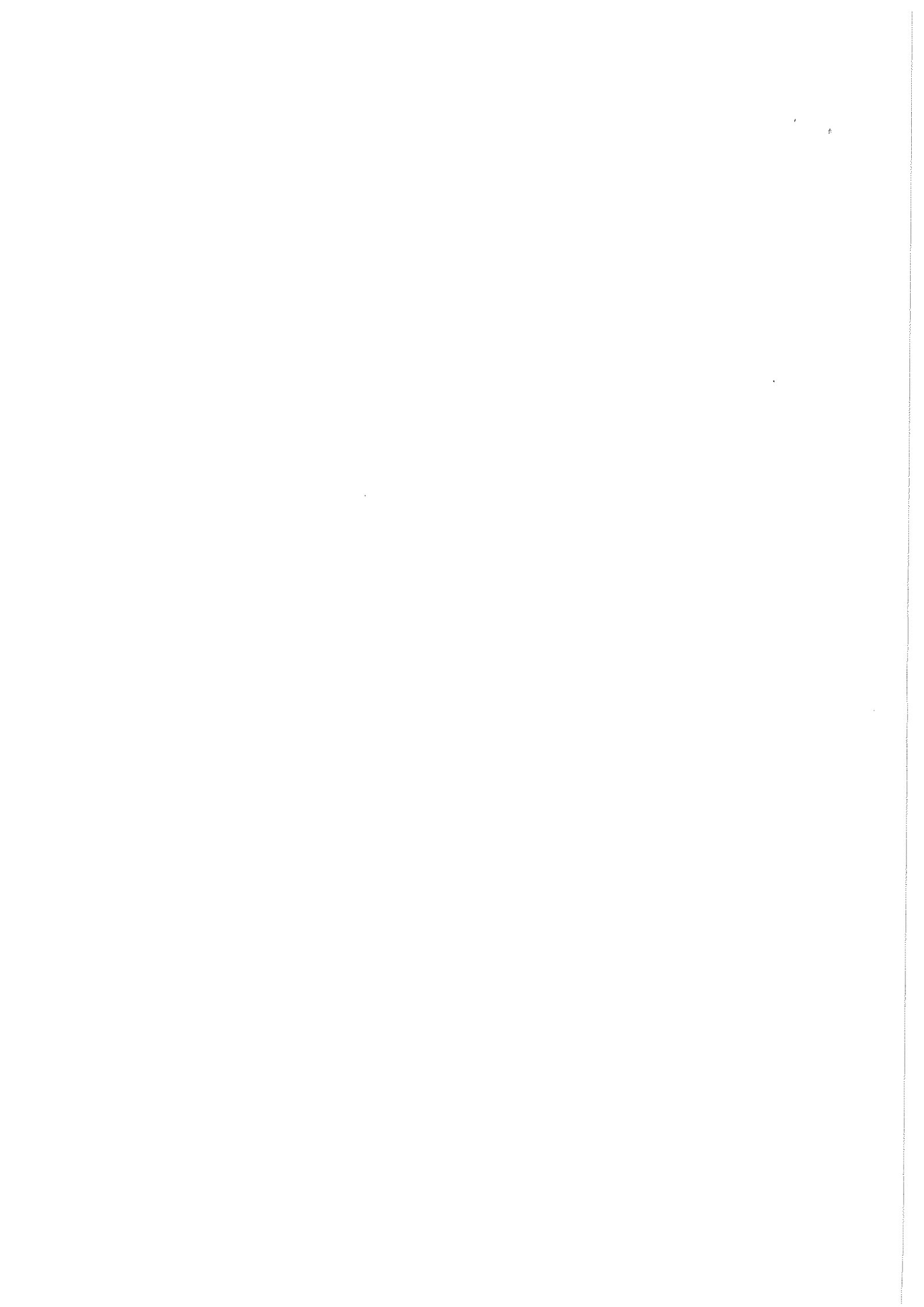
- b) Abhinav, Adarsh, Anoop are three partners in a firm sharing profit and losses in the ratio of 5:4:3 on 31st March, 2019.

They decided to dissolve the firm when there state of affairs was as follows:

Liabilities	Rs.	Assets	Rs.
Sundry creditors	10,860	Cash at bank	710
Capital accounts:		Investments	12,400
Abhinav	20,000	Debtors	7,950
Adarsh	9,000	Stock	9,240
Anoop	73,030	Machinery	12,000
		Building	20,500
		Leases holds	37,300
		Goodwill	12,790
	1,12,890		1,12,890

Abhinav agreed to take over the buildings at Rs.32,000 and Adarsh took over goodwill, stock and debtors at book values leasehold at Rs.29,250 and machinery at Rs.5,780, Adarsh also agreed to pay the creditors. Anoop took the investments at the agreed value of Rs.11,500. Show the realization account, partner's capital accounts and bank account.

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SEE AUG'23

MATT31/16-08-2023

ABSTRACT ALGEBRA

No. of Pages: 2
Time: 3 Hrs.

Roll No.:
No. of Questions: 13

Max. Marks: 75M
Pass Min: 30M



SECTION - A

Answer any FIVE of the following:

5 X 5 = 25M

1. Show that the set Q_+ of all positive rational numbers forms an abelian group under the composition defined by ' \circ ' such that $a \circ b = \frac{ab}{z} \forall a, b \in Q_+$.
2. In a group G if $a \in G$ then prove that $0(a) = 0(a^{-1})$.
3. If H_1, H_2 are two subgroups of a group G then prove that $H_1 \cap H_2$ is a subgroup of G .
4. If H is any subgroup of a group G then prove that $H^{-1} = H$.
5. If a, b are any two elements of a group G and H is any subgroup of G then prove that $Ha = Hb \Rightarrow ab^{-1} \in H$.
6. If f is a homomorphism from a group G into G' then prove that Kernel f is a normal subgroup of G .
7. Examine whether the permutation $\begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\ 7 & 3 & 1 & 8 & 5 & 6 & 2 & 4 \end{pmatrix}$ is even or odd permutation.
8. Prove that every cyclic group is abelian.

SECTION - B

Answer the following:

5 X 10 = 50M

9. (a) Prove that a finite semi group (G, \circ) satisfying the cancellation laws is a group.
OR
(b) Prove that the set of n^{th} roots of unity under multiplication forms a finite group.
10. (a) Let H is a non-empty complex of a group G . Then prove that the necessary and sufficient condition for H to be a subgroup of G is $a, b \in H \Rightarrow ab^{-1} \in H$ where b^{-1} is the inverse of b in G .
OR
(b) If H and K are two subgroups of a group G then prove that HK is a subgroup of G if and only if $HK = KH$.

Contd...(2)

11. (a) Prove that the order of a subgroup of a finite group divides the order of the group.
OR
(b) Prove that a subgroup H of a group G is a normal subgroup of G if and only if each left coset of H in G is a right coset of H in G .
12. (a) State and prove fundamental theorem of homomorphism for groups.
OR
(b) Let f be a homomorphism from a group G into a group G' then prove that f is a monomorphism $\Leftrightarrow \text{Ker}f = \{e\}$ where $e \in G$ is the identity in G .
13. (a) State and prove Cayley's theorem.
OR
(b) If P is a prime number then prove that every group of order P is a cyclic group, i.e., prove that a group of prime order is cyclic.

SEE AUG'23

BOTT31A/16-08-2023

ANATOMY, EMBRYOLOGY OF ANGIOSPERMS, PLANT ECOLOGY AND BIODIVERSITY

No. of Pages: 1

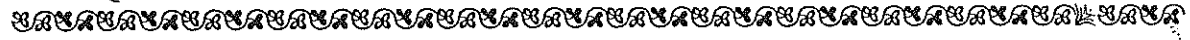
Roll No:	
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Max. Marks: 75M

Time: 3Hrs

Pass Min: 30M

No. of Questions: 13



Note: Draw neat labelled diagrams wherever necessary.

SECTION-A

Answer any FIVE of the following

5X5=25M

1. Types of stomata CO1, L1
2. Structure of ovule CO2, L1
3. Ecological Pyramids CO3, L2
4. Community respiration CO4, L2
5. Red data Books CO5, L2
6. Vernalization CO3, L2
7. Levels of Biodiversity CO5, L1
8. Rose wood CO1, L1

SECTION-B

Answer the following

5X10=50 M

9. (a) Describe the process of anomalous secondary growth in *Boerhaavia* stem. CO1, L2.

OR

- (b) Recall the organization of shoot apical meristem with the help of various theories. CO1, L2.

10. (a) Explain various types of Endosperm. CO2, L2.

OR

- (b) Discuss the process of embryogeny in Dicots. CO2, L2.

11. (a) Describe the structure of a typical ecosystem CO3, L2.

OR

- (b) Explain the development of plant community in aquatic environment. CO3, L2.

12. (a) Describe the characters shown by a community. CO4, L2

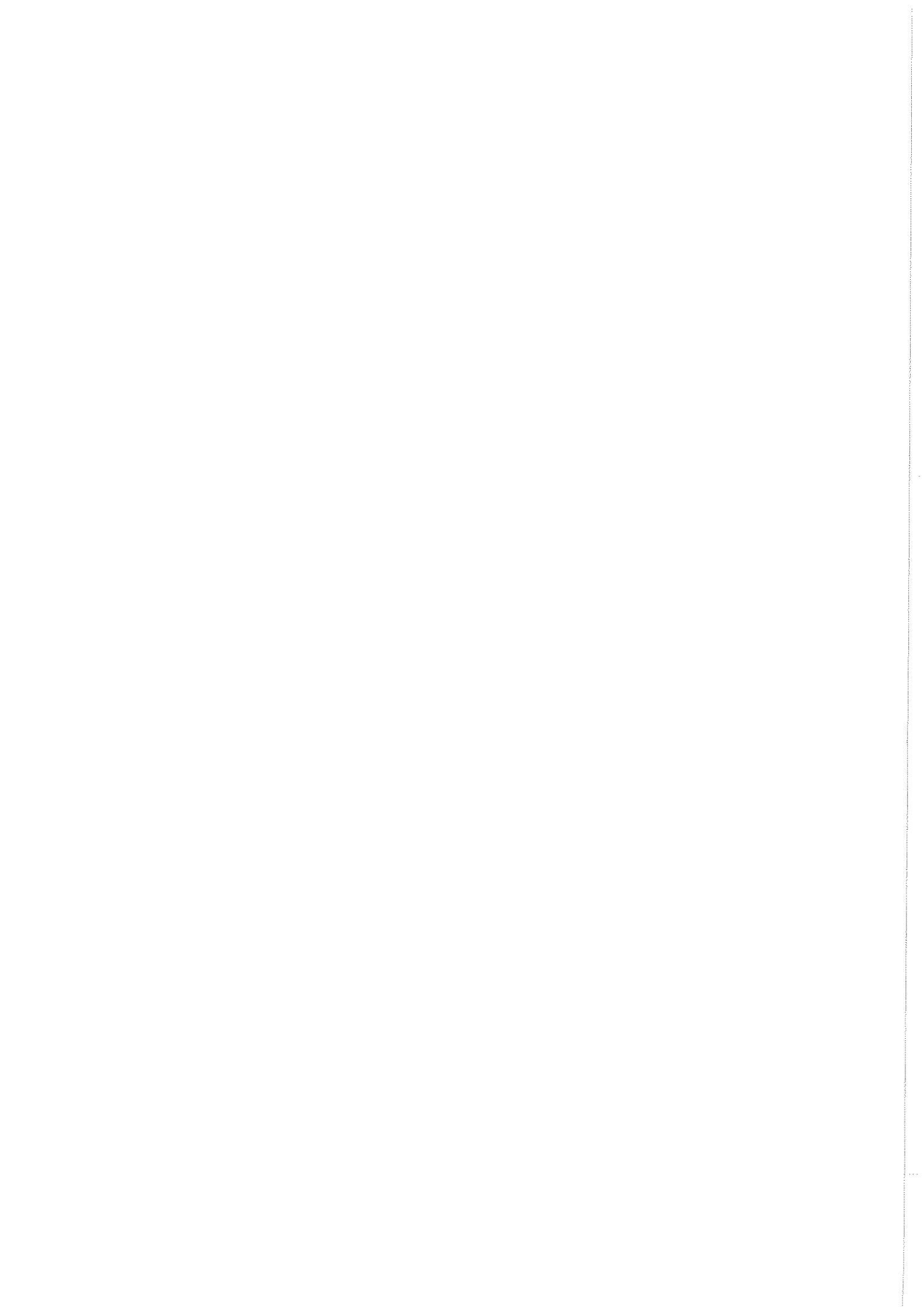
OR

- (b) Explain the characteristics shown by a population CO4, L2

13. (a) Discuss the major threats to loss of Biodiversity CO5, L2

OR

- (b) Explain the role of NBPGR and NBA in the conservation of Biodiversity CO5, L2



Roll No.							
In Figures							
In words							

Course Code
ENGT11B

For Office use only

Marks Max.: 75M Pass Min: 30M

- (i) Answer Section-A in the space provided in the first 1 hour and submit the same to the Invigilator.
(ii) Answer Section-B and Section-C in the main answer book.
(iii) At the end of examination, fasten Section-A to the main answer book and submit to the Invigilator.

For Office use only

Marks Scored		
Section: A	<input type="text"/>	Total <input type="text"/>
Section: B&C	<input type="text"/>	

SECTION - A

No. of Pages: 4 Time: 1Hr. No. of Questions: XI Max. Marks: 35M

I Fill in the blanks with suitable articles: 6 X ½ = 3M

It is (1) _____ beautiful day. All (2) _____ trees in our college are blooming. (3) _____ campus is filled with good smells of all those flowers and trees. (4) _____ squirrels are busy making their nests. (5) _____ squirrel is making (6) _____ nest in our class room.

II Fill in the blanks with suitable prepositions: 6 X ½ = 3M

- a. I lived _____ (1) my parents _____ (2) Kurnool _____ (3) four years.
b. The guests are coming _____ (4) Six O'clock _____ (5) the evening _____ (6) Thursday.

III Fill in the blanks with the correct verb form. 5 X 1 = 5M

- My brother is a writer. He _____ (write) novels.
- The postman _____ (deliver) my appointment letter yesterday.

3. My brothers _____ (play) cards when the flight started.
4. I _____ (buy) a new car next week.
5. I _____ (live) in Vijayawada since 2001.

IV Fill in the blanks with the correct concord in the following sentences: 6 X ½ = 3M

1. Mathematics and English _____ (is) my favourite subjects.
2. One lakh rupees _____ (are) a lot of money.
3. Ten years _____ (are) the maximum sentence for that offense.
4. Umbrella and rain coat _____ (is) essential gear on a rainy day.
5. Every one of the shirts _____ (have) a blue collar.
6. Girls _____ (plays) in the park.

V Complete the following with suitable question tags: 3 X 1 = 3M

1. He can walk fast, _____ ?
2. They are celebrating their victory _____ ?
3. Seema sings well, _____ ?

VI Fill in the blanks with suitable modal verbs: 4 X ½ = 2M

1. Nita _____ swim well.
2. _____, I borrow your pen, please.
3. You _____ complete the work on time.
4. She _____ call father immediately.

VII Write the correct spelling of the following words:

4 X ½ = 2M

1. grammer _____
2. hipocrasy _____
3. skillfull _____
4. dependence _____

VIII Punctuate the following sentences:

2 X 1 = 2M

1. john said i enjoyed the breakfast very much.

2. how long will it take us to reach there he asked.

IX Rewrite the following sentences as directed:

5 X 1 = 5M

1. Hari ate six puris at dinner. (Change into Passive voice)

2. She said, "Do you live near the school"? (Change into Indirect speech)

3. The guest said, "I don't like sugar in my coffee".
(Change into Indirect speech)

4. My mom painted the picture in one day. (Change into Passive voice)

5. LIC is one of the most popular insurance companies in India.
(Change into Positive degree)

X Correct the following sentences:

2 X 1 = 2M

1. They told to him to hurry up.

2. Never I have seen such a huge library.

XI Write a paragraph on any ONE of the following:

5M

1. Artificial Intelligence

2. Beat plastic pollution

Ans:

SEE AUG'23

ENGT11B / 16-08-2023

ENGLISH PRAXIS-I

SECTION – B & C

No. of Pages: 1

Roll No.:

Max. Marks: 40M

Time: 2 Hrs.

No. of Questions: 13

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SECTION – B

*I Answer any FIVE of the following in about 150 words each :*

5 X 5 = 25M

1. How many vowel sounds are there in English language? What are they? Give with examples.
2. Write all the consonant sounds with 3 examples in three different positions each.
3. What is intonation? Explain the types of intonation.
4. What is attitude? How can one develop positive attitude?
5. Explain how SWOT/C model can be used to analyse an individual.
6. What are some DOs and Don'ts of cell phone etiquette?
7. Explain any two elements of emotional intelligence.

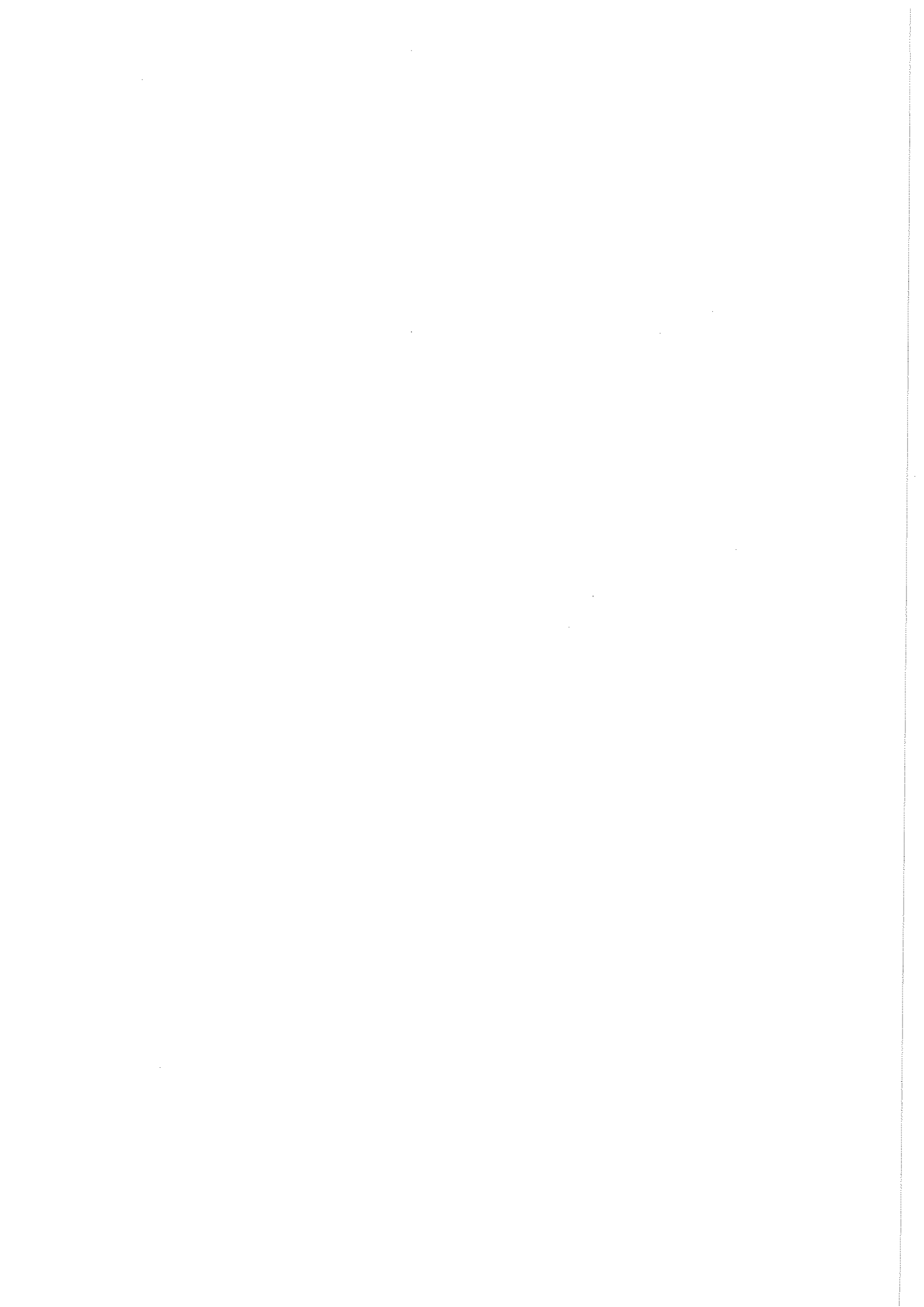
SECTION – C

*II Answer any FIVE of the following in about 75 words each:*

5 X 3 = 15M

8. What is the difference between listening and hearing?
9. Write a brief note on the barriers of listening.
10. How can we develop good interpersonal skills?
11. What are the characteristics of emotional intelligence? Explain.
12. Describe the traits of a good listener.
13. What is meant by word accent/ stress? What is its importance in English?

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## TELUGU-I

No. of Pages: 2

Time: 3Hrs.

No. of Questions: 08

Roll No.:

Max. Marks: 75M

Pass Min. : 30M

అక్షరాలను ఉపయోగించి సరియైన పదాలను గుర్తించండి.

1. క్రింది పద్యాలలో ఒకదానికి ప్రతిపదార్థ తాత్పర్యమును వ్రాయండి: 7మా

- అ) బహుధనధాన్యసంగ్రహము బాణశరాసనయోధవీరసం  
గ్రహము నిరంతరాంతరుదకంబులు ఘాసరసేంధనౌఘసం  
గ్రహము ననేకయంత్రములు గల్గి యసాధ్యము లై ద్విషద్యయా  
వహు లగుచుండ నొప్పునె భవత్పరిరక్ష్యము లైన దుర్గముల్.
- ఆ) కలలోనం దను మున్నెఱుంగని మహాకష్టాత్మడైనట్టి దు  
ర్బలు డాపత్తమయంబునన్ నిజపదాబ్జాతంబు లుల్లంబులోన్  
దలప న్నంతనె మెచ్చి యార్తిహారు డై తన్నైన నిచ్చున్ సుని  
శ్చల భక్తిన్ భజించువారి కిడడే సంప ద్విశేషోన్నతుల్.

2. క్రింది వానిలో మూడింటికి సందర్భసహిత వ్యాఖ్యలు వ్రాయండి. 3 × 4 = 12మా

1. అనుపవుగా రాజ కార్యభారము దాల్చున్.
2. బ్రతికితిమి మీ కరుణన్.
3. పట్టి తెచ్చెద వడి నన్ను బనుపు దేవ.
4. ధరణీసురుడెంతటి భాగ్యవంతుడో.
5. రాముడేరీతి లంకకు రాగలండు.

3. క్రింది వానిలో మూడింటికి సంగ్రహరూప సమాధానాలు వ్రాయండి. 3 × 4 = 12మా

1. ఉద్యోగుల పట్ల రాజు వ్యవహరించ వలసిన తీరును తెలపండి.
2. ప్రమథ గణము దక్షుని యజ్ఞాన్ని ధ్వంసం చేయగా. అక్కడివారు పడిన పొట్లు ఏవి?
3. ధౌమ్యుడు పాండవులకు ధర్మోపదేశం ఎందుకు చేసాడు?
4. శ్రీకృష్ణుడు బాల్యసఖుని ఆదరించిన విధానం తెల్పండి.
5. త్రిజట తన స్వప్నాన్ని గురించి తోటి కావలి కత్తెలతో ఏమని చెప్పింది?

4. క్రింది వానిలో మూడింటికి వ్యాసరూప సమాధానాలు వ్రాయండి. 3 × 8 = 24మా

1. ఉద్యోగుల నియామకంలో రాజులు ఎటువంటి జాగ్రత్తలు తీసుకోవాలి?
2. 'దక్షయజ్ఞం' ఆధారంగా నన్నెచోడుని కవితా వైభవాన్ని తెల్పండి?
3. ధౌమ్యుడు పాండవులకు చేసిన ధర్మోపదేశాన్ని వివరించండి.
4. పోతన 'మధుర స్నేహం' ఘట్టాన్ని వర్ణించిన విధానమును తెల్పండి?
5. సీతారావణ సంవాదాన్ని సంగ్రహంగా రాయండి.

Contd...(2)

5. క్రింది వానిలో మూడింటిని విడదీసి సంధి కార్యములు వ్రాయండి. 3 × 2 = 6మా

1. శతైకవృద్ధి      2. కోపోద్రేకము      3. ఎమ్మెయి      4. సహస్రాంగన      5. సీతమ్మ

6. క్రింది వానిలో మూడింటికి విగ్రహ వాక్యలు వ్రాసి సమాస నామాలు వ్రాయండి. 3 × 2 = 6మా

1. విరూపాక్షుడు      2. ధనలుబ్ధులు      3. భీమార్జునులు      4. యాదవ ప్రకరమల్  
5. పారిజాత పుష్పములు

7. అ) క్రింది పద్యాన్ని గణవిభజన చేసి, యతిని గుర్తించి, ఏ పద్యమో తెలపండి. 4మా

జలజ భవాండ మంతయును జర్జరితం బగుచుండ ప్రచ్ఛిమున్.

లేదా

అ) క్రింది వానిలో ఒకదానికి లక్ష్య, లక్షణ సమన్వయం చేయండి.

1. కందము      2. తేటగీతి      3. సీసం

8. అ) క్రింది పద్యములోని అలంకారమును గుర్తించి, లక్ష్య, లక్షణ సమన్వయం చేయండి. 4మా

మకరకుండల సదృశు మంజుభాషు

నిరుపమాకారు దుగ్ధ సాగర విహారు

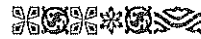
భూరి గుణసాంద్రు యదుకులాంభోధి చంద్రు

విష్ణు రోచిష్ణు జిష్ణు సహిష్ణు, గృష్ణు

లేదా

ఆ) క్రింది అలంకారాలలో ఒకదానికి లక్ష్య, లక్షణ సమన్వయం చేయండి.

1. ఉపమ      2. వృత్త్యానుపాస



## HINDI-I

No. of Pages: 2

Time: 3Hrs.

No. of Questions: 13

Roll No.:

Max. Marks: 75M

Pass Min. : 30M

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PART-AI. निम्न लिखित प्रश्नों में से किन्हीं पाँच प्रश्नों का उत्तर दीजिए :- 5 X 5 = 25M

1. साहित्य किसे कहते हैं? इसका शास्त्र से क्या संबंध है?
2. 'नाना प्रकार' की सच्ची वीरता के कुछ उदाहरण भारतीय इतिहास से दीजिए ।
3. मित्र बनाते समय किन-किन बातों का ध्यान रखना चाहिए ?
4. 'मुक्तिधन' कहानी के लाला दाउदयाल का चरित्र वर्णन कीजिए ।
5. 'उसने कहा था' कहानी का उद्देश्य समझाइए ।
6. नीचे दिए गए शब्दों का वचन बदलिए ।
(i) लडका (ii) बहिन (iii) थाली (iv) लता (v) रानी
7. काल किसे कहते हैं उसके कितने प्रकार हैं?
8. नीचे दिए गए शब्दों के लिंग बदलिए ।
(i) माली (ii) दादा (iii) चौधरी (iv) अनुज (v) बंदर

PART-B

II. निम्न लिखित प्रश्नों का उत्तर दीजिए:-

5 X 10 = 50M

9. (अ) 'साहित्य की महत्ता' पाठ का सारांश लिखिए ।
अथवा
(आ) 'मित्रता' निबंध का सारांश लिखिए ।
10. (अ) 'मुक्तिधन' कहानी का सारांश लिखिए ।
अथवा
(आ) 'उसने कहा था' कहानी का सारांश लिखिए ।
11. (अ) किन्हीं पाँच शब्दों को अंग्रेजी से हिन्दी में अनुवाद कीजिए ।
(i) Accommodation (ii) Affidavit (iii) Bonafide (iv) Circular
(v) Consolidated (vi) Cashier (vii) Director (viii) Chairman
(ix) Auditor (x) Governor
अथवा
(आ) वाच्य किसे कहते हैं? वाच्य के प्रकारों के बारे में स्पष्ट कीजिए ।

12. (अ) किन्हीं पाँच शब्दों के विलोम शब्द लिखिए ।

- (i) आकाश (ii) आदि (iii) गुण (iv) अमृत (v) प्रत्यक्ष
(vi) झूठ (vii) हँसना (viii) जड

अथवा

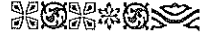
(आ) वाक्य शुद्ध कीजिए ।

- (i) हम सबेरे जगता है ।
(ii) राम ने कहानी पढ़ा था ।
(iii) हम दिल्ली जाना है ।
(iv) वह उसका काम करता है ।
(v) सरला ने फूल लायी ।

13. (अ) अपने कालेज वार्षिकोत्सव का वर्णन करते हुए अपने मित्र के नाम एक पत्र लिखिए ।

अथवा

(आ) कलाशाला के शुल्क भरने के लिए पैसे माँगते हुए अपने पिताजी को एक पत्र लिखिए ।



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 composition of constituent Assembly.
2. List the Fundamental Duties of Indian Constitution.
3. Write a short note on Coalition politics.
4. What are the functions of State Council of Ministers?
5. Write a short note on Judicial Review.
6. What are the emergency powers of President of India?
7. Discuss various functions of State legislature.
8. Write about judicial activism.

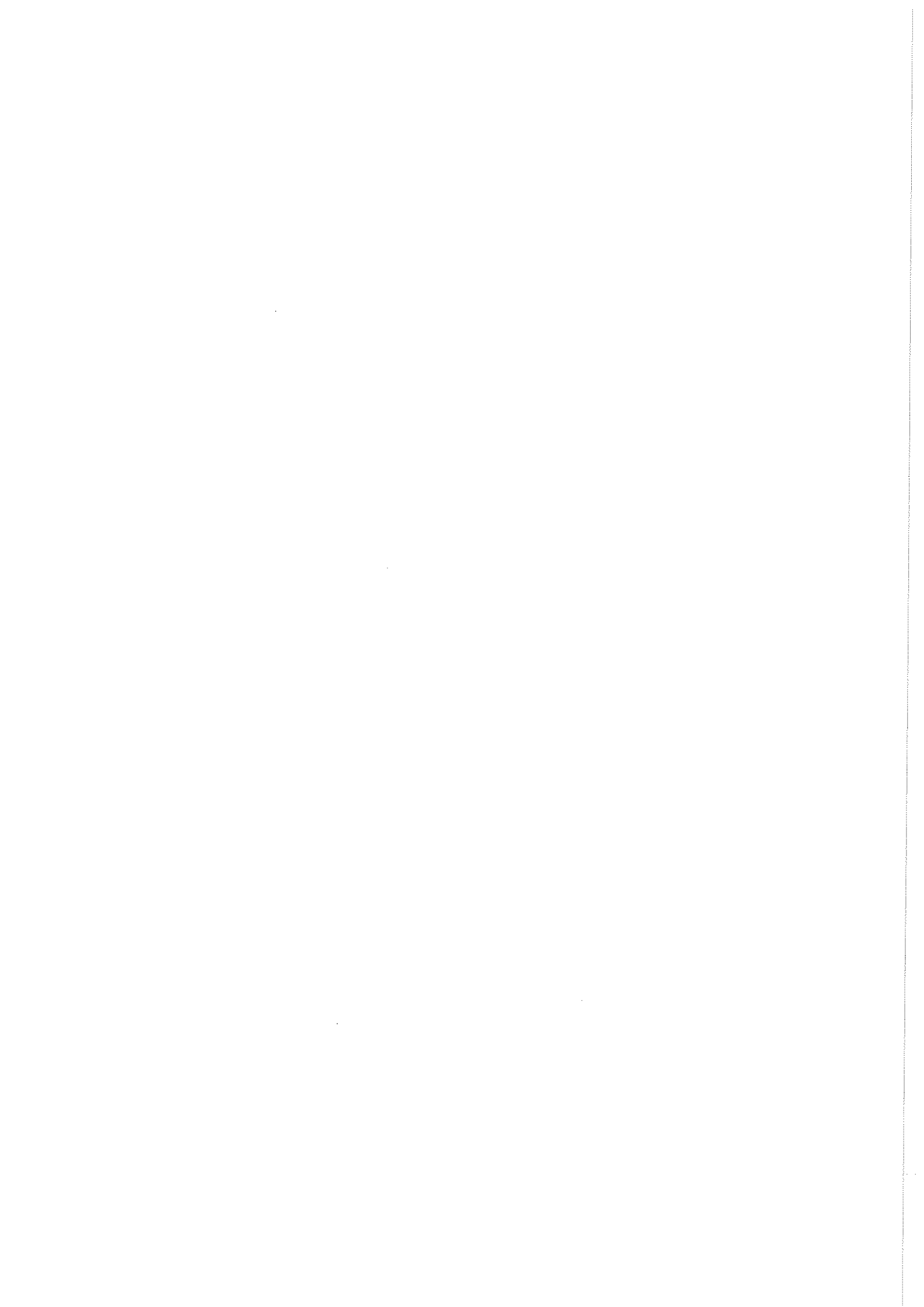
Section B

Answer the following:

5 x 10 = 50M

9. a) Explain the basic features of Indian Constitution.
or
b) Elaborate the historical perspective of constitutional development in India.
10. a) Write an essay on Fundamental Rights.
or
b) Discuss the Directive principles of State Policy and list 5 differences between Fundamental Rights and Directive principles of state policy.
11. a) Discuss various powers and functions of Prime Minister of India.
or
b) Describe the composition of Indian Parliament and analyse the functions of Indian Parliament.
12. a) Write an essay on the role of Governor in State administration.
or
b) Analyse various powers and functions of Chief Minister and Council of ministers in State level.
13. a) Discuss the composition of Supreme Court of India and analyse the powers and functions of Supreme Court.
or
b) Write an essay on powers and functions of High Courts in India.

* * *



Business Statistics

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 advantages of statistics?
2. What are the essentials of a good questionnaire?
3. What are the different types of averages?
4. What are the merits and demerits of measures of dispersion?
5. Write a short note on scatter diagram.
6. State seasonal variations and explain any three uses.
7. What are the problems in the construction of index numbers?
8. Define index numbers and stating its utility.

Section B

Answer the following:

5 x 10 = 50M

9. a) Explain the terms primary and secondary data and distinguish primary and secondary data.
or
b) Define business statistics and explain the functions of business statistics.
10. a) Distinguish between mean, median and mode.
or
b) Calculate the mean and median from the data given below:

Class:	20-25	25-30	30-35	35-40	40-45	45-50	50-55
Frequency:	10	12	8	20	11	4	5

11. a) Explain different measures of dispersion.
or
b) Calculate standard deviation and co efficient of variation for given data:

CI:	0-10	10-20	20-30	30-40	40-50	50-60	60-70
F:	6	14	10	8	1	3	8

12. a) What are the differences between correlation and regression analysis?
OR
b) Calculate the coefficient of correlation from the following data:

X:	16	12	18	4	3	10	5	12
Y:	20	22	24	17	19	20	18	20

Contd.....(2)

Business Statistics

13. a) Explain various methods of trend analysis.

or

b) From the data given below construct the Fisher's index numbers and also prove that time reversal test and factoral reversal test satisfies the Fisher formula.

Commodities	A	B	C	D
Base year price	8	12	6	4
Base year quantity	20	10	16	8
Current year price	10	15	8	6
Current year quantity	30	10	20	10

* * *

SEE AUG'23

COMT34/17-08-2023

E-COMMERCE

No. of Pages: 1

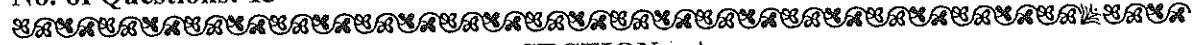
Time: 3Hrs

No. of Questions: 13

Roll No:	
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Max. Marks: 75M

Pass Min: 30M



SECTION - A

Answer any FIVE of the following:

5 X 5 = 25M

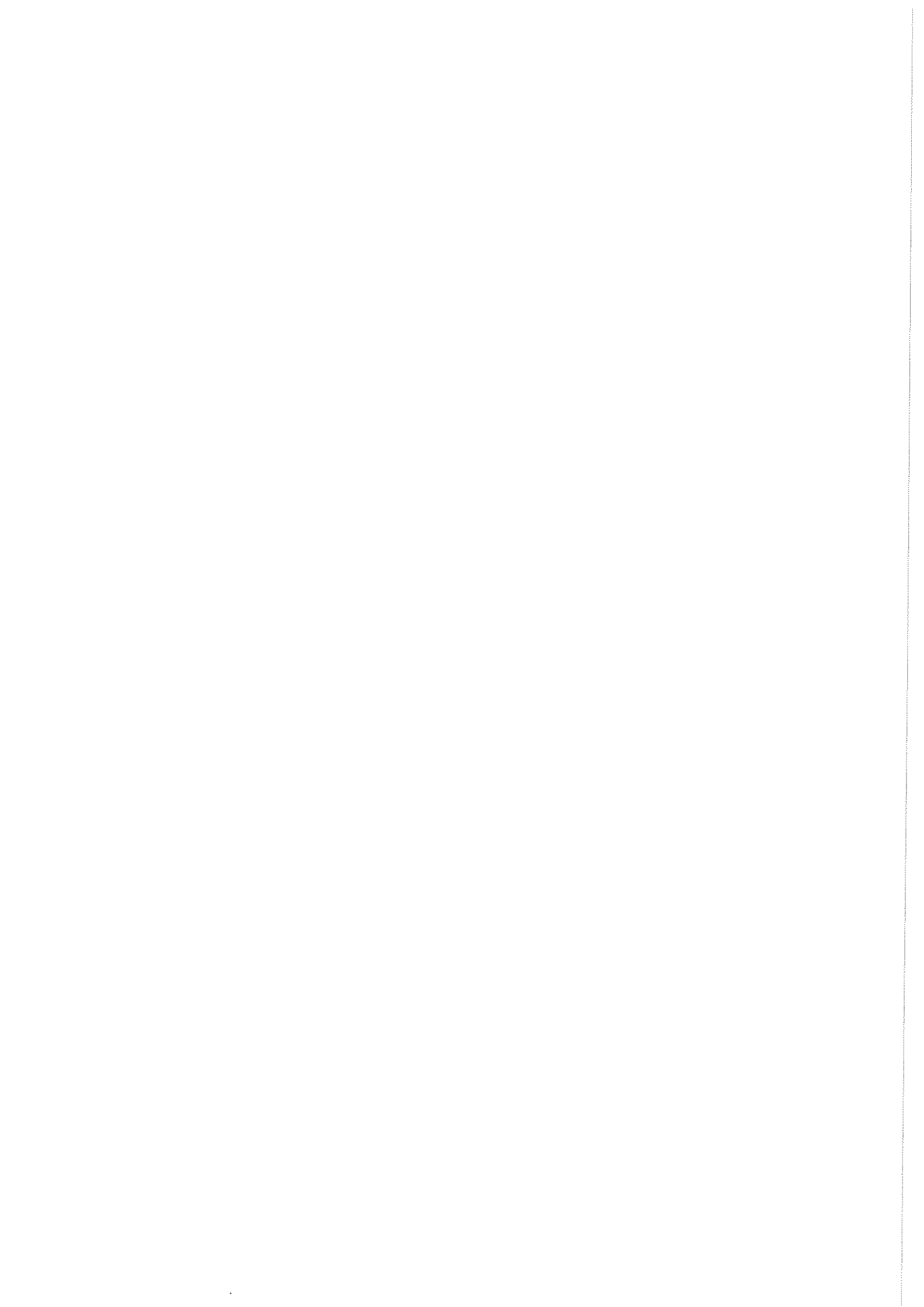
1. Nature of e-commerce.
2. Discuss B2A.
3. Web page.
4. IP Address.
5. Cyber Law.
6. E-Learning.
7. Elements of E-payment system.
8. Mobile banking.

SECTION - B

Answer the following:

5 X 10 = 50M

9. (a) What are the advantages and limitations of e-commerce?
OR
(b) Discuss about frame work of e-commerce.
10. (a) Discuss about website design and development process.
OR
(b) What is Internet? State the advantages and disadvantages of Internet.
11. (a) Discuss about the web application fire walls for web server protection.
OR
(b) Explain the need and scope of cyber law.
12. (a) What is e-retailing? State the advantages and disadvantages of e-retailing.
OR
(b) Discuss about components of e-retailing.
13. (a) Explain the advantages of e-payment system.
OR
(b) Discuss about various digital payment apps.



HEAT AND THERMODYNAMICS

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

Or

- b) Derive an expression for thermal conductivity and viscosity of a gas on the basis of Kinetic theory.
2. a) Describe the working of Carnot's engine and derive expression for its efficiency.

Or

- b) What is T-S diagram,
i) Write about entropy and disorder
ii) Explain entropy of the universe.
3. a) Define the four thermodynamic potentials, Obtain Maxwells thermodynamic equations using these potentials.

Or

- b) Describe and explain the porus plug experiment.
4. a) What is adiabatic demagnetization? Using this principle how low temperatures are produced?

Or

- b) Explain Joule-Thomson effect. Derive expression for Joule-Thomson cooling.
5. a) Derive Planks formula for the distribution of energy in black body radiation.

Or

- b) What are pyrometers, explain the construction and working of Angstrom pyroheliometer?

Section B

Answer any THREE of the following:

3 x 5 = 15M

6. What do you mean by transport phenomenon?
7. Write note on entropy change in reversible process.
8. Derive Clausius-Clapeyron's equation.
9. Explain the principle of refrigeration.
10. How temperature of the sun is measured?

Contd.....(2)

HEAT AND THERMODYNAMICS

Section C

Answer any TWO of the following:

2 x 5 = 10M

11. Calculate the maximum possible velocity of hydrogen molecule at one atmospheric pressure at 20°C , given $R = 8.31 \times 10^7 \text{ ergs/k}$.
12. Carnot's engine works between 227°C and 27°C . Its efficiency is 50%, what is the percentage of actual efficiency to theoretical efficiency.
13. Calculate the temperature of inversion of Helium gas given $a = 3.44 \times 10^{-3} \text{ nt} - \text{m}^4 / \text{mol}^2$ and $b = 0.0237 \times 10^{-3} \text{ m}^3 / \text{mol}$ and $R = 8.31 \text{ joule (mol-k)}$.
14. A body at 1500 k emits maximum energy at a wavelength $20,000 \text{ \AA}$, if the sun emits maximum energy at a wave length 5500 \AA , what would be the temperature of the sun?

* * *

SEE AUG'23

STAT31C/17-08-2023

STATISTICAL INFERENCE

No. of Pages: 2

Time: 3Hrs

No. of Questions: 13

Roll No:	
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Max. Marks: 75M

Pass Min: 30M



SECTION – A

Answer any FIVE of the following:

5 X 5 = 25M

1. Write the statements of weak law of large number and central limit theorem.
2. Define student's t-distribution and write its applications.
3. Show that $S^2 = \frac{1}{n-1} \sum (x_i - \bar{x})^2$ is unbiased estimator of population variance σ^2 .
4. Let P be the probability that a coin will fall head in a single toss in order to test $H_0 : p = \frac{1}{2}$ against $H_1 : p = \frac{3}{4}$. The coin is tossed 5 times and H_0 is rejected if more than 3 heads are obtained. Find the probability of type I error and power of test.
5. Explain type I and type II errors.
6. Write the procedure for testing single proportion in large sample tests.
7. In random samples of sizes 10 and 15, the unbiased estimators of variances are found to be 5 and 9 respectively. Can we reasonably conclude that the population variance are equal [Given table value 3.02].
8. Explain the measurement of scales.

SECTION – B

Answer the following:

5 X 10 = 50M

9. (a) Define Chi-square distribution and derive pdf of Chi-square distribution.
OR
(b) Define F-distribution and write its applications and their properties.
10. (a) Write the characteristics of a good estimator.
OR
(b) Obtain 95% and 99% confidence interval for the population parameter μ in the normal population, when σ^2 is known.
11. (a) State and prove Neyman-Pearson Lemma.
OR

(b) Given the frequency function $f(x, \theta) = \begin{cases} \frac{1}{\theta}, & 0 \leq x \leq \theta \\ 0, & \text{elsewhere} \end{cases}$ and $H_0 : \theta = 1$ vs $H_1 : \theta = 2$

by means of a single observed value of x. What would be the sizes of the type I and type II errors, (i) $0.5 \leq x$ (ii) $1 \leq x \leq 1.5$ as the critical regions? Also obtain the power function of the test.

Contd...(2)

12. (a) Random samples of 400 men and 600 women were asked whether they would like to have a fly over near their residence. 200 men and 325 women were in favour of the proposal. Test the hypothesis that proportions of men and women in favour of the proposal are same or not at 5% level of significance.

OR

- (b) Write the procedure of F-test for equality of population variance.

13. (a) Physical and mental abilities of 1000 students are collected from a school and given below. Test whether physical and mental abilities are independent at 1% level. [given table values 13.28]

		Mental abilities		
		High	Average	Below Average
Physical abilities	High	39	27	14
	Average	260	252	178
	Below average	41	91	98

OR

- (b) Explain the procedure of Wald-Wolfowitz run test for one sample.

SEE AUG'23

ZOOT31A/17-08-2023

CELL BIOLOGY, CELLULAR METABOLISM, GENETICS, ORGANIC EVOLUTION
AND ANIMAL BEHAVIOUR

No. of Pages: 1

Roll No:	
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Max. Marks: 75M

Time: 3Hrs

Pass Min: 30M

No. of Questions: 13

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Note: Draw neat labelled diagrams wherever necessary.

SECTION - A

Answer any FIVE of the following:

5 X 5 = 25M

1. Discuss structure and functions of nucleus.
2. What would happen if mitochondria does not function properly?
3. Explain urea cycle.
4. Describe Down syndrome.
5. Describe DNA repair mechanism.
6. Explain disruptive natural selection.
7. Outline the importance of artificial selection.
8. Explain Circadian rhythms with suitable examples.

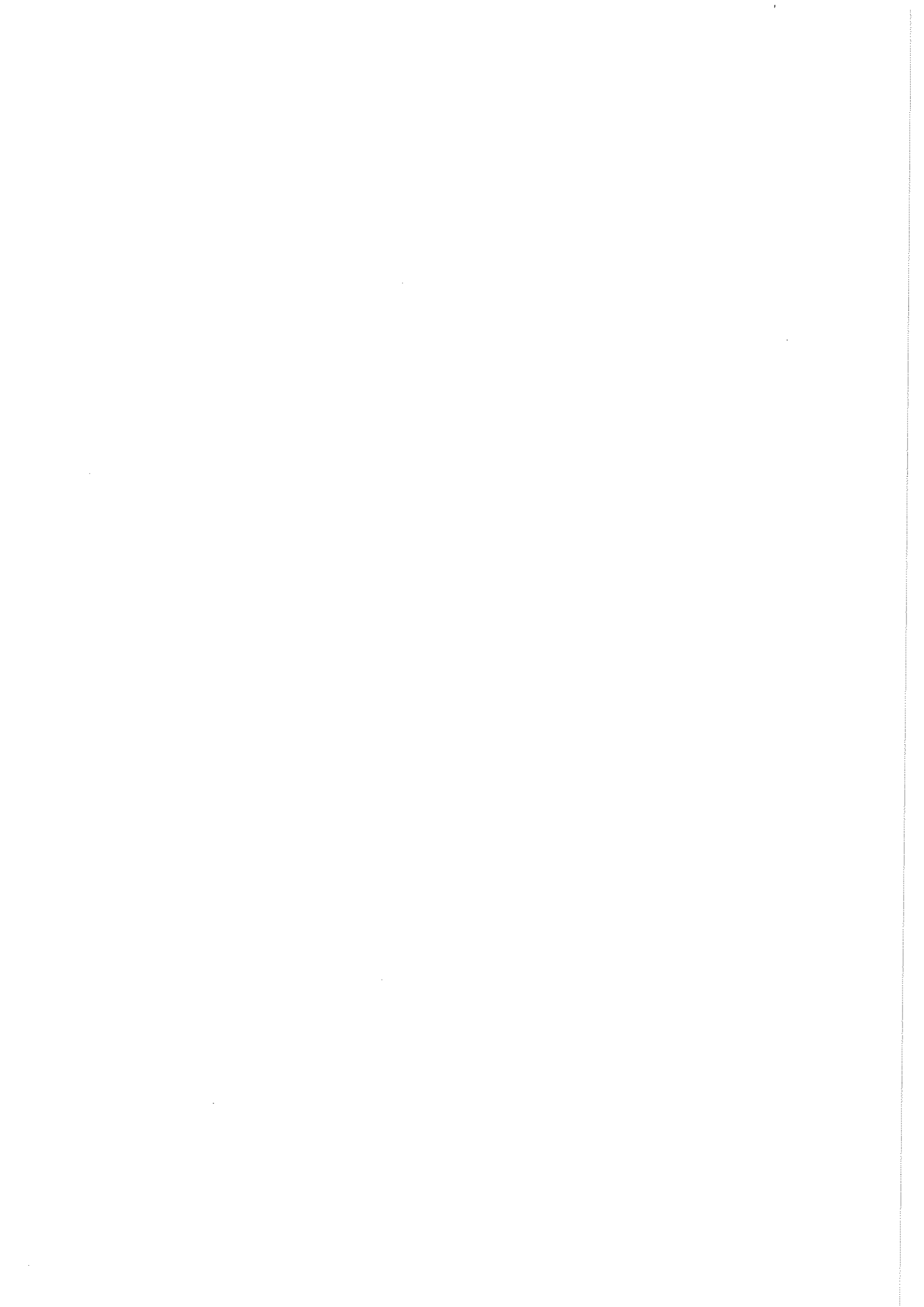
SECTION - B

Answer the following:

5 X 10 = 50M

9. (a) Illustrate electron microscopic structure of animal cell.  
OR  
(b) Explain the structure and functions of chromosomes.
10. (a) Elaborate on the classification of Carbohydrates.  
OR  
(b) Describe the Glycogen metabolism.
11. (a) Write an essay on lethal genes.  
OR  
(b) Elaborate the following:  
(i) Amniocentesis (ii) Sickle cell anaemia
12. (a) Explain speciation with suitable examples.  
OR  
(b) Explain modern synthetic theory of evolution in detail.
13. (a) Comment on the following with suitable examples:  
(i) Motivation (ii) Learning.  
OR  
(b) Explain the role of mimicry in animal behaviour.

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SEE AUG 2023

HIST11B / 18-08-2023

Ancient Indian History & Culture From Indus Valley Civilization to 13<sup>th</sup> Century A.D.

No. of Pages: 01  
Time: 3 Hrs

Roll No:  
No. of Questions: 13

Max. Marks: 75M  
Pass Min.: 30M

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Section A

Answer any FIVE of the following:

5 x 5 = 25M

1. Social conditions of Rigvedic period.
2. Causes for the downfall of Indus vally civilization.
3. Write about Buddhist councils.
4. Kautilyas – Ardhasastram.
5. Sangama literature.
6. Write the Pallava's Kanchipuram.
7. Nalanda University.
8. Rudramma Devi.

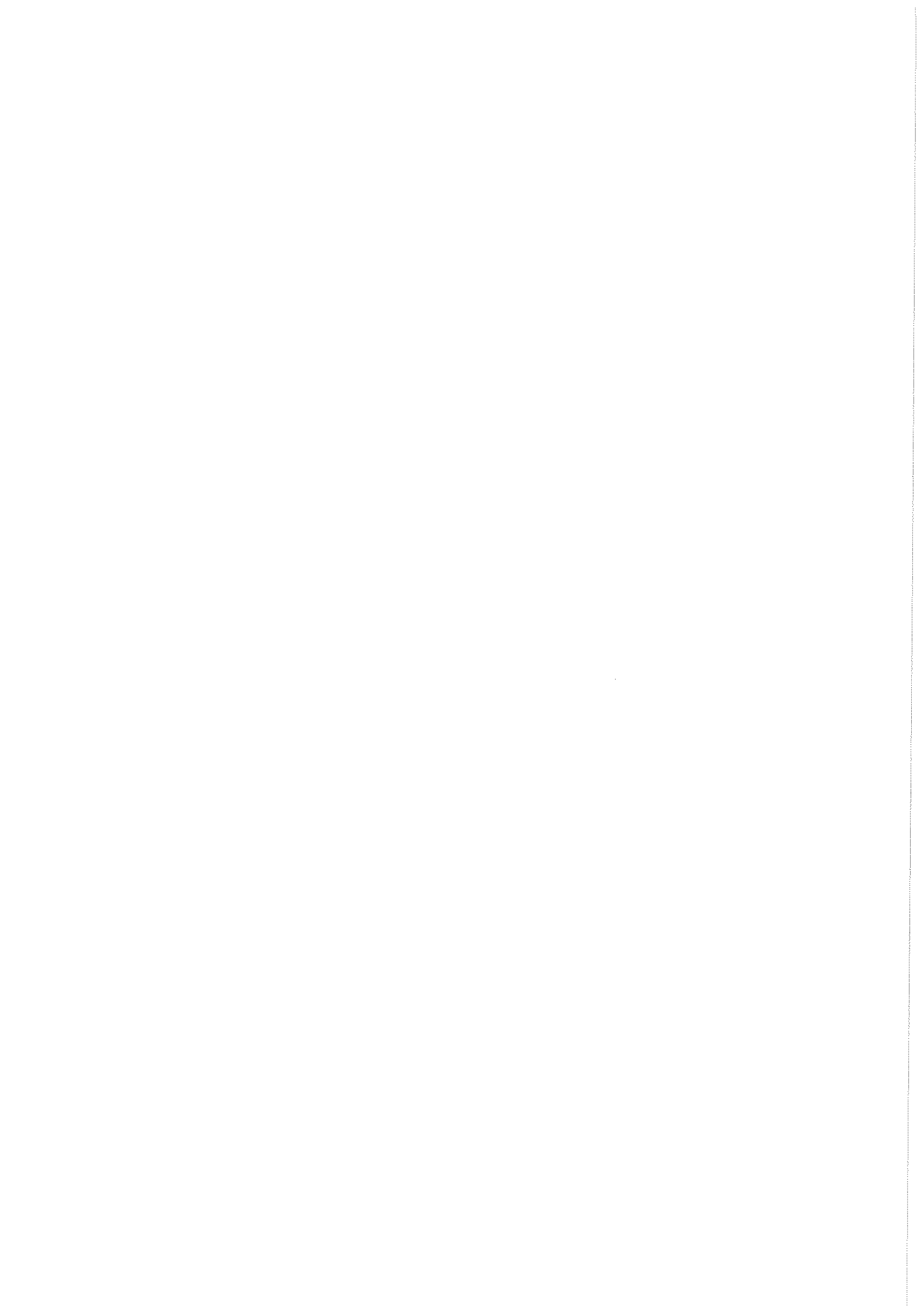
Section B

Answer the following:

5 x 10 = 50M

9. a) What are the main features of features of Indusvally civilization?  
or  
b) Describe the socio, economic, religious conditions of latervedic civilization.
10. a) Sketch the life and teachings of vardhamana Mahaveera.  
or  
b) Write an essay on Mauryan Dynasty.
11. a) Eastimate Gowthami Putra Satakarni.  
or  
b) Discuss socio and economic conditions of Pallavas.
12. a) Describe the achievements of Samudraguptha.  
or  
b) Write about Arab conquest of Sindh and its impact.
13. a) Write an essay on Cholas village administration.  
or  
b) Write about religious and cultural conditions of Kakatiyas.

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SEE AUG 2023

COMT11B / 18-08-2023

Fundamentals of Accounting

No. of Pages: 03  
Time: 3 Hrs

Roll No:  
No. of Questions: 13

Max. Marks: 75M  
Pass Min.: 30M

Section A

5 x 5 = 25M

Answer any FIVE of the following:

1. Double accounting principles.
2. Define accounting. Differences between trade discount & cash discount.
3. Write importance of petty cash book.
4. Define 'Contra Entry'. In what conditions contra entry (passed) appears.
5. Explain the methods for preparing trail balance.
6. What is an error? What is meant by rectification of error?
7. Discuss the importance of B.R.S.
8. Write only five advantages of preparing final accounts.

Section B

5 x 10 = 50M

Answer the following:

9. a) Write any ten accounting concepts.

or

b) Journalise the following transactions:

2008 Aug 1 Krishna commenced business with cash of Rs.50,000

Aug 2 Deposited with bank Rs.10,000

Aug 15 Paid telephone bill Rs.500

Aug 16 Bought furniture and paid by cheque Rs.12,000

Aug 19 Received a first and final dividend of 60 paise in the rupee from the official receiver of Mr. Rajesh, who owed in Rs.10,000.

Aug 25 Interest received from Nagesh Rs.200

Aug 27 Cash received from Lal Rs.200

Aug 29 Purchased goods from Ramu for cash Rs.1,200

Aug 29 Rs.3,650 cash paid to Rajiv in full settlement of his account for Rs.3,700 (Discount received Rs.50)

Aug 30 Received cash from Kiran Rs.14,600 in full settlement of his account from Rs.15,000 (Discount allowed Rs.400)

10. a) Write the importance of subsidiary books and explain the different types of subsidiary books.

or

Contd....(2)