



GOVERNMENT COLLEGE, RAYACHOTY

Affiliated to Yogi Vemana University

Rayachoty - 516269



QUESTION PAPERS

**B.SC (CS), B.SC (Zoology) B.A (Economics)
B.A (Special Urdu) B.COM (CA)**

III - SEMESTER

NOVEMBER-DECEMBER-2025



GOVERNMENT COLLEGE, RAYACHOTY

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QUESTION PAPERS

III - SEMESTER

MATHEMATICS

PHYSICS

COMPUTER SCIENCE

NOVEMBER-DECEMBER-2024

RS 33

THREE YEAR B.A./B.Sc./B.Com. (CBCS) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Part I (B): Another Language — Telugu

Paper III — ANCIENT AND MODERN POETRY, PROSE AND ALANKARAS

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

సెక్షన్ ఎ — (5 × 5 = 25 మార్కులు)

క్రింది వానిలో ఐదు ప్రశ్నలకు సమాధానాలు రాయండి.

ప్రతి ప్రశ్నకు 5 మార్కులు.

1. బలి చక్రవర్తి గుణ, గణాలను తెల్పండి.
2. కొఱవి గోపరాజు కవితా నైపుణ్యాన్ని వివరించండి.
3. ఈ క్రింది వాటికి సందర్భ సహిత వ్యాఖ్యలు రాయండి.

(అ) మాట తిరుగలేరు మానధనులు.

(ఆ) ఇంద్రుడిదే నిన్ను బిల్వబనిచెన్ క్షాపాలా విచ్చేయుమా!

4. క్రింది వాటికి సందర్భ సహిత వ్యాఖ్యలు రాయండి.

(అ) ధర్మచింతవచ్చె, ధనకాంక్ష హెచ్చెరా

(ఆ) అయిదు లక్షల అరవదేడులు.

5. కలియుగంలోని ప్రజలు ఎలా బ్రతుకుతున్నారు.
6. రాయప్రోలు వారి సాహిత్య సేవను గూర్చి తెల్పండి.
7. తెలుగు భాషాభివృద్ధికి తీసుకోవాల్సిన చర్యలను తెల్పండి.
8. వ్యక్తిత్వ వికాసానికి తోడ్పడే అంశాలు తెల్పండి.

సెక్షన్ బి - (5 × 10 = 50 మార్కులు)

అన్ని ప్రశ్నలకు సమాధానాలు రాయండి.

ప్రతి ప్రశ్నకు 10 మార్కులు.

క్రింది పద్యాలలో ఒకదానికి ప్రతిపదార్థ తాత్పర్యాలు, వ్యాకరణాంశాలు తెలపండి.

(10)

9. కులమున్ రాజ్యముఁ దేజమున్ నిలుపు మీ కుబ్జుండు విశ్వంభరుం
డలఁతఁ బోఁడు త్రివిక్రమ స్ఫురణవాఁడై నిండు బ్రహ్మాండముం
గలఁడే మాన్పు నొకండు నా వలుకు లాకర్ణింపు కర్ణంబులన్
వల దీ దానము గీనముం బనువుమా వర్ణిన్ పదాన్వోత్తమా

లేదా

10. సజ్జిత దాన ధర్మ గుణవారు విచారుడు వైరిదారద్రు
కృజ్జీల మార్జన ప్రథమ కారణ చారు కృపాణపాణి వి
ద్వజ్జన బృంద వంది జనతా జల జార్కుడు విక్రమార్కుఁడా
యుజ్జయినీ పురంబున నమోన్నతి రాజ్యము సేయుచుండఁగన్॥

11. వామనావతార వృత్తాంతాన్ని వివరించండి.

(10)

లేదా

12. శాలివాహన విజయం కథా సారాంశాన్ని విశదీకరించండి.

13. కుసుమధర్మన్న గారు వివరించిన హరిజనుల దీనస్థితిని తెల్పండి.

(10)

లేదా

14. రాయప్రోలు వారు దర్శించిన సంక్రాంతి సంబరాన్ని వివరించండి.

15. తెలుగు భాష సాహితీ వైశిష్ట్యాన్ని వివరించండి.

(10)

లేదా

16. వ్యక్తిత్వ వికాస విశిష్టతను యెలియజేయండి.

17. చంపకమాల, కందం లక్షణాలను సోదాహరణంగా తెల్పండి.

(10)

లేదా

18. ఉపమ, లాటాను ప్రాసాలంకారాలను సోదాహరణంగా వివరించండి.

RS 30

THREE YEAR B.A./B.Sc./B.Com./B.B.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

English

PROSE, POETRY, FUTURE READING AND LANGUAGE USAGE

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

-
- I Answer any THREE of the following questions. (3 × 5 = 15)
1. Bring out the essence of the essay "Shyness My Shield".
 2. What were the reasons that led to remove Dr. Allinson from the Society?
 3. What does Bell talk about robots in Japan?
 4. How do young people tend to use new technology?
- II. Answer any THREE of the following questions. (3 × 5 = 15)
5. What assumptions can you make about the kind of life that the poet has been living in the poem, "Once Upon a Time"?
 6. How do the people use language to hide their emptiness and hypocrisy in the poem. "Once Upon a Time"?
 7. Why is the pen like a gun in the poem, "Digging"?
 8. Do you think the speaker is unhappy that he is not a potato farmer like his father and grandfather? Why or why not?
- III. Answer any THREE of the following questions. (3 × 5 = 15)
9. Sketch the character of Kapasi.
 10. Narrate the story "The Interpreter of Maladies" in your own words.
 11. Bring out the central theme of the story, "The Beloved Charioteer".
 12. Sketch the character of Aarthi.
- IV. Answer any TWO of the following questions. (2 × 5 = 10)
13. Write a note on the comic elements in the play, "Kanyasulkam".
 14. Comment on the role of Madhuravani in Kanyasulkam.

15. Why is it necessary for Girisam to leave town?
16. Describe the condition of women in society as portrayed by Gurajada Appa Rao.
- V. Expand any ONE of the following proverb. (1 × 5 = 5)
17. Where there is a will, there is a way.
18. Necessity is the mother of invention.
- VI. Convert the following sentences as directed. (5 × 1 = 5)
19. We must hope for better times. (Change into a Complex Sentence)
20. Besides giving fruit as well as a good shade. (Change into a Compound Sentence)
21. If you get up early you can catch the train. (Change into a Simple Sentence)
22. At the sight of the lion, she ran away. (Change into a Compound Sentence)
23. A visually challenged person needs help. (Change into a Simple Sentence)
- VII. Read the following passage and make notes. (1 × 5 = 5)
24. Eliminate what drains you. To start with identify those that drain you. What drains you are the things you put up with, the things that bag you and the things you have neglected. What drain you can be little things and big things. They can be dishes piling up in the sink, driving in rush hour traffic, a messy car, cluttered closets, or a missing button. They can also be poor behavior in a relationship, a boss who micromanages you, an over-flowing in box, a friend who is always late, or a jog you dislike. These things are what I call the physical, mental and emotional clutter in your life. They hold you back and are a huge drain on your energy level.
- VIII. Answer any ONE of the following. (1 × 5 = 5)
25. Write a report on Tree Plantation carried out in your area.
26. Prepare a report for a monthly magazine regarding the effects of mobile phones on students.

3MJ60805

THREE YEAR B.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024

THIRD SEMESTER

Mathematics

Course V – GROUP THEORY

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. In a group G , prove that identity element is unique.
2. A finite semi group satisfying the cancellation laws is a group.
3. Prove that if H_1 and H_2 are two subgroups of G , then prove that $H_1 \cap H_2$ is also a subgroup of G .
4. Prove that G be a group and H is a non empty finite subset of G then H is a subgroup of $G \Rightarrow \forall a, b \in H \Rightarrow a \cdot b \in H$.
5. Prove that any two right co-sets of H are disjoint or identical.
6. Solve $f(x) = x^2, \forall x \in G$ if f is homomorphism then show that G is commutative.
7. Every homomorphic image of an abelian group is abelian.
8. Express the product $(2\ 5\ 4)(1\ 4\ 3)(2\ 1)$ as a product of disjoint cycles and find its inverse.
9. Every cyclic group is an abelian group.
10. Show that the set of all cube roots of unity is a cyclic group w.r.t. multiplication.

SECTION B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Prove that the set- Z of all integers form an abelian group w.r.t. the operation defined by $a * b = a + b + 2, \forall a, b \in Z$.

Or

12. Show that the fourth roots of unity form an abelian group w.r.t. multiplication.

13. If H and K are two subgroups of a group G , then HK is a subgroup of G iff $HK = KH$.

Or

14. State and prove Lagrange's theorem for groups.

15. Prove that any two left co-sets of H are disjoint or identical.

Or

16. If M, N are two normal subgroups of G such that $M \cap N = \{e\}$. Then every element of M commutes with every element of N .

17. State and prove Fundamental theorem of homomorphism.

Or

18. The necessary and sufficient condition for a homomorphism f of a group G onto a group G' with Kernel K to be an isomorphism of G into G' is that $K = \{e\}$.

19. State and prove Cayley's theorem.

Or

20. If G is an infinite cyclic group, then G has exactly two generators which are inverses of each other.

2 RS 36113

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Mathematics

Paper III — ABSTRACT ALGEBRA

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

Each question carries 5 marks.

ఏవేని ఐదు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

1. Define a group and prove that in a group (G, o) , cancellation laws hold.

సమూహాన్ని నిర్వచించండి మరియు సమూహంలో (G, o) కొట్టివేత న్యాయాలు ఉన్నాయని నిరూపించండి.

2. Define order of an element. In a group G , prove that if $a \in G$ then $O(a) = O(a)^{-1}$.

మూలకం యొక్క క్రమాన్ని నిర్వచించండి. G గ్రూప్ లో, $a \in G$ అయితే $O(a) = O(a)^{-1}$ అని నిరూపించండి.

3. If H_1 and H_2 are two sub groups of a group G then $H_1 \cap H_2$ is also a sub group.

H_1 మరియు H_2 ఒక సమూహం G యొక్క రెండు ఉప సమూహాలు అయితే $H_1 \cap H_2$ కూడా ఒక ఉపసమూహం

4. Prove that any two left (right) cosets of a sub group are either identical or disjoint.

ఉప సమూహం యొక్క ఏదైనా రెండు ఎడమ (కుడి) సహసమితులు వియుక్తాలు లేదా సమానం అని నిరూపించండి.

5. The necessary and sufficient condition for a subgroup H of group G is normal is $xHx^{-1} = H \forall x \in G$.

సమూహం G యొక్క ఉప సమూహం H అభిలంబ ఉప సమూహం కావడానికి అవశ్యక పర్యాప్త నియమము $xHx^{-1} = H \forall x \in G$ అని చూపండి.

6. Prove that every quotient group of an abelian group is abelian.

వినిమయ సమూహము యొక్క ప్రతి వ్యుత్పన్న సమూహము వినిమయం అని నిరూపించండి.

7. Every homomorphic image of an abelian group is abelian.

ప్రతి సమరూపత ప్రతిబింబం యొక్క వినిమయ సమూహం వినిమయము.

8. If f is a homomorphism of a group G into a group G' then the Kernel of f is a normal sub group of G .

G నుండి G' f అనేది సమరూపత అయితే, f యొక్క కెర్నల్ ఒక G ఉప సమూహం అభిలంబ అని నిరూపించండి.

9. Show that a division ring has no zero divisors.

విభాగ వలయం కు శూన్యభాజకాలు లేవు అని చూపండి.

10. Prove that every field is an Integral Domain.

ప్రతి క్షేత్రము ఒక పూర్ణాంక ప్రదేశం అని నిరూపించండి.

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

11. Prove that the set of n^{th} roots of unity forms a group with respect to multiplication.

'1' యొక్క n వ మూలాల సమితి గుణకారానికి సంబంధించి ఒక సమూహాన్ని ఏర్పరుస్తుందని నిరూపించండి.

Or

12. Prove that the set of matrices $A_\alpha = \begin{pmatrix} \cos \alpha & -\sin \alpha \\ \sin \alpha & \cos \alpha \end{pmatrix} \alpha \in R$ forms a group with respect to matrix multiplication if $\cos \theta = \cos \phi \rightarrow \theta = \phi$.

మాత్రికల సమితి $A_\alpha = \begin{pmatrix} \cos \alpha & -\sin \alpha \\ \sin \alpha & \cos \alpha \end{pmatrix} \alpha \in R$, $\cos \theta = \cos \phi \rightarrow \theta = \phi$ అయితే మాత్రిక గుణకారానికి

సంబంధించి ఒక సమూహాన్ని ఏర్పరుస్తుందని నిరూపించండి.

13. Prove that the union of two subgroups of a group G is a subgroup iff one is contained in another.

సమూహం G యొక్క రెండు ఉప సమూహాల సమ్మేళనం ఉప సమూహం అగుటకు అవశ్యక వ్యవస్థ నియమము ఒకటి మరొక ఉప సమూహానికి ఉపసమితి అని నిరూపించండి.

Or

14. State and prove Lagrange's theorem.

లేగ్రాంజ్ సిద్ధాంతాన్ని నిర్వచించి నిరూపించండి.

15. If M, N are two normal subgroup of G such that $M \cap N = \{e\}$ then show that every element of M commutes with every element of N .

M, N అనేది G యొక్క రెండు అభిలంబ ఉప సమూహం $M \cap N = \{e\}$ అయితే, M యొక్క ప్రతి మూలకం N యొక్క ప్రతి మూలకంతో ప్రయాణిస్తుందని చూపిస్తుంది.

Or

16. If H is normal subgroup of group G then prove that the set G/H of all cosets of H in G with respect to cosets multiplication is a group.

G లో H ఒక అభిలంబ ఉప సమూహం అయితే, సహసమితుల గుణకారానికి సంబంధించి G లోని H యొక్క అన్ని సహసమితులు G/H సమితి ఒక సమూహం అని నిరూపించండి.

17. State and prove Fundamental theorem of Homomorphism of groups
సమూహాల సమరూపత యొక్క ప్రాథమిక సిద్ధాంతాన్ని నిర్వచించి, నిరూపించండి.

Or

18. The necessary and sufficient condition for a homomorphism f from a group G onto a group G' with kernel K to be an isomorphism of G into G' is that $K = \{e\}$.

కెర్నల్ K తో సమూహ G నుండి G' ఒక సమూహానికి f ఒక సమరూపత G నుండి G' అయితే $K = \{e\}$ అవశ్యక పర్యాప్త నియమం అని చూపండి.

19. Prove that every finite integral domain is a field.

ఒక పరిమిత పూర్ణాంక ప్రదేశం క్షేత్రం అవుతుంది అని చూపండి.

Or

20. State and prove cancellation laws on rings.

వలయంలో కొట్టివేత న్యాయాలను ప్రవచించి నిరూపించండి.

3 MJ 60806

THREE YEAR B.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024

THIRD SEMESTER

Mathematics

NUMERICAL METHODS

(w.e.f 2023–2024)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following.

1. Define Averaging Operator and Shifting Operator.
2. Show that
 - (a) $(1+\Delta)(1-\Delta)=1$
 - (b) $E\nabla=\Delta$
3. Find the third divided difference of the function $f(x)=x^3+x+2$ for the arguments 1, 3, 6, 11.
4. Find the missing entries in the following data.

x	0	1	2	3	4	5
$Y=f(x)$	0	?	8	15	?	35
5. Find the cubic polynomial which takes the following data.

x	0	1	2	3
$F(x)$	1	2	1	10
6. Construct a divided difference table for the following

x	1	2	4	7	12
$F(x)$	22	30	82	106	216
7. Write the Stirling's Difference formula.
8. Write the Bessel's difference formula.
9. Find the real root of the equation $x^2-5x+2=0$ by Newton Raphson method.
10. Find out the roots of the equation $x^3-x-4=0$ using False position method.

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions

11. State and prove Fundamental theorem of difference calculus.

Or

12. Evaluate $\Delta^3 (1-x)(1-2x)(1-3x)$ the interval differentiating being unity.

13. Using Newton's divided difference formula to find $f(9)$ from the data.

x	5	7	11	13	17
$F(x)$	150	392	1452	2366	5202

Or

14. The value of x and y are given below.

x	5	6	9	11
$F(x)$	12	13	14	16

By Lagranges Interpolation formula, find the value of y at $x=10$.

15. Apply Stirling's formula to find $f(25)$ from the following data.

x	10	20	30	40
$F(x)$	1.1	2	4.4	7.9

Or

16. Using Gauss's forward interpolation formula find $f(25)$ given that $f(20)=14, f(24)=32, f(28)=35, f(32)=40$.

17. Find a real root of the equation $x^3 + x^2 - 1 = 0$ by Iteration method.

Or

18. Find the root of the equation $2x - \log_{10} x = 7$ which lies between 3, 5 and 4 by Regular Falsi method.

19. Fit the least square parabola $y = a + bx + cx^2$ to the data $f(-1)=2, f(0)=1, f(1)=2, f(2)=4$.

Or

20. Fit a polynomial of second degree to the data points given in the following table.

x	0	1.0	2.0
y	1.0	6.0	17.0

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THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Mathematics – (Major)

Course 7 – LAPLACE TRANSFORMS

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE questions.

Each question carries 4 marks.

1. Find the Laplace transform of $(5e^{2t} - 3)^2$.
2. Find the Laplace transform of $(t + 3)^2 e^t$.
3. Find the Laplace transform of $\frac{\sin t}{t}$.
4. Find the inverse Laplace transform of $\frac{2p + 1}{p^2 - 4}$.
5. Find the inverse Laplace transform of $\frac{p}{p^2 - a^2}$.
6. Find $L(3 \sin 4t - 4 \cos 4t)$.
7. Find $L\{e^{2t} + 4t^3 - 2 \sin 3t + 3 \cos 3t\}$.
8. Find $L\{(t^2 - 3t + 2)\sin 3t\}$.
9. Find $L^{-1}\left[\frac{3p + 1}{p^2 - 2p - 3}\right]$.
10. Find $L^{-1}\left\{\frac{P}{(p^2 - a^2)^2}\right\}$.

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

Each question carries 10 marks.

11. State and prove existence theorem for Laplace transforms.

Or

12. State and prove initial and final value theorem.

13. Prove $L[J_0(t)] = \frac{1}{\sqrt{1+p^2}}$.

Or

14. Find $L\left\{\frac{\cos 4t \cdot \sin 2t}{t}\right\}$.

15. Prove that $L(t^n F(t)) = (-1)^n f(p)$.

Or

16. Show that $\int_0^{\infty} t^3 e^{-t} \sin dt = 0$.

17. State and prove convolution theorem for inverse Laplace transforms.

Or

18. Use convolution theorem to find $L^{-1}\left\{\frac{p^2}{(p^2+4)^2}\right\}$.

19. State and prove Heaviside's expansion theorem.

Or

20. Find $L^{-1}\left\{\frac{6s^2 + 22s + 18}{s^3 + 6s^2 + 11s + 6}\right\}$, by apply Heaviside's expansion theorem.

3 MJ 60808

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Mathematics (Major)

Course 8 : SPECIAL FUNCTIONS

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. Show that $\Gamma(1/2) = \sqrt{\pi}$
2. Evaluate $B\left(\frac{3}{2}, \frac{5}{2}\right)$
3. Find the radius of convergence of the series $\sum_{n=1}^{\infty} \frac{x^n}{n!}$
4. Solve the differential equation $y' + y = 0$ using power series method.
5. If $H_n(x) = (-1)^n e^{x^2} \frac{d^n}{dx^n} (e^{-x^2})$, then find $H_2(x)$.
6. Show that $H_{2n}(0) = \frac{(-1)^n (2n)!}{n!}$
7. Show that $P_n(-1) = (-1)^n$, where $P_n(x)$ is the Legendre polynomials.
8. Show that $(2n+1)xP_n(x) = (n+1)P_n(x) + nP_{n-1}(x)$.
9. Prove that $\frac{d}{dx} [x^n J_n(x)] = x^n J_{n-1}(x)$.
10. Prove that $2J'_n(x) = J_{n-1}(x) - J_{n+1}(x)$.

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Prove that $B(m, n) = \frac{\Gamma(m)\Gamma(n)}{\Gamma(m+n)}$

Or

12. Show that $\int_{-1}^1 \frac{T_n(x)T_m(x)}{\sqrt{1-x^2}} dx = \begin{cases} 0, & m \neq n; \\ \frac{\pi}{2}, & m = n; \\ \pi, & m = n = 0. \end{cases}$

13. Find the radius and interval of convergence of the power series $\sum_{n=0}^{\infty} \frac{(-1)^n x^{2n+1}}{2n+1}$.

Or

14. Solve the differential equation $y'' + y = 0$ by power series method.
15. Prove that $H'_n(x) = 2xH_n(x) - H_{n+1}(x)$.

Or

16. State and prove orthogonality of Hermite polynomials.

17. Show that $\int_{-1}^1 P_n(x)P_m(x)dx = \frac{2}{2n+1} \delta_{mn}$.

Or

18. Show that $(1 - 2xt + t^2)^{-1/2} = \sum_{n=0}^{\infty} P_n(x)t^n$.

19. Prove that the orthogonality for Bessel functions:

$$\int_0^1 x J_n(ax) J_n(bx) dx = 0, \quad (a \neq b).$$

Or

20. Prove that $e^{x\left(\frac{t-1}{2-2t}\right)} = \sum_{n=-\infty}^{\infty} J_n(x)t^n$.

3 MN 60702

B.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Mathematics (Minor)

Course 5: GROUP THEORY

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. In a group G , inverse of any element is unique.
2. A finite semi group satisfying the cancellation laws is a group.
3. If H is any subgroup of a group G , then $H \cdot H = H$.
4. Prove that the union of two subgroups is subgroups if and only if one is contained in the other.
5. If a, b are any two elements of a group G and H any subgroup of G , then $a \in bH \Leftrightarrow aH = bH$.
6. If N, M are normal subgroups of G , then NM is also a normal subgroup of G .
7. Every homomorphic image of an abelian group is abelian.
8. If $f = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 \\ 5 & 3 & 2 & 4 & 1 \end{pmatrix}$ and $g = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 \\ 4 & 3 & 1 & 2 & 5 \end{pmatrix}$ then find fg and gf .
9. Every cyclic group is an abelian group.
10. Show that the set of all cube roots of unity is a cyclic group w.r.t. multiplication.

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Prove that the set G of all real numbers other than '1' with operation \oplus such that $a \oplus b = a + b - ab$ for $a, b \in G$ is an abelian group.

Or

12. Show that the fourth roots of unity form an abelian group w.r.t. multiplication.

13. If H and K are two subgroups of a group G , then HK is a subgroup of G iff $HK = KH$.

Or

14. State and prove Lagrange's theorem for groups.

15. Prove that any two right cosets of H are disjoint or identical.

Or

16. If H is a normal subgroup of G . The set $\frac{G}{H}$ of all cosets of h in G w.r.t cosets multiplication is a group.

17. Every homomorphic image of a group G is isomorphic to some quotient group of G .

Or

18. The necessary and sufficient condition for a homomorphism f of a group G onto a group G' with Kernel K to be an isomorphism of G into G' is that $K = \{e\}$.

19. Every finite group G is isomorphic to a permutation group.

Or

20. Every subgroup of cyclic group is cyclic.

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THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Physics (WM)

(For Mathematics Combination)

Paper III – HEAT AND THERMODYNAMICS

(w.e.f. 2020-21 Admitted batch)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

1. (a) Explain the method of experimental verification of Maxwell's velocity distribution law.

మాక్సెల్ వేగ వితరన నియమాన్ని పరిశీలించే ప్రయోగ పద్ధతిని వివరించుము.

Or

- (b) Derive an expression for coefficient of diffusion of a gas on the basis of kinetic theory of gases.

అణుచలన సిద్ధాంతం ఆధారంగా ఒక వాయువు విసరణ గుణకానికి సమీకరణాన్ని ఉత్పాదించండి.

2. (a) Describe the Carnot's cycle. Calculate the work done per cycle of operations and obtain an expression for its efficiency.

కార్నో చక్రాన్ని వివరించి, ఒక చక్రానికి చేయవలసిన పనిని లెక్కించి, దక్షతకు సమీకరణాన్ని ఉత్పాదించండి.

Or

- (b) Explain the Temperature — Entropy (T-S) diagram and write its uses.

ఉష్ణోగ్రత - ఎంట్రోపీ (T-S) రేఖా చిత్రాన్ని వివరించుము మరియు ఉపయోగాలను తెలుపుము.

3. (a) Give the various thermodynamic potentials. How are these related to thermodynamics variables S,T,P and V?

వివిధ రకాల ఉష్ణగతిక శక్తులను రాసి, అవి ఉష్ణగతిక చలరాశులు S,T,P,V లతో ఎటువంటి సంబంధాలను కలిగి వుంటాయో తెల్పండి.

Or

- (b) Derive an expression for the ratio of specific heats of a gas.

ఒక వాయువు యొక్క విశిష్టోష్ణముల నిష్పత్తికి సమీకరణమునకు ఉత్పాదించండి

4. (a) Describe the porous plug experiment and explain the result.

పోరస్ ప్లగ్ ప్రయోగమును వర్ణించి, ఆ ప్రయోగ ఫలితాలను వివరించుము.

Or

- (b) Explain the adiabatic demagnetization. Describe an experiment of producing very low temperature.

స్థిరోష్ణక నిరయస్కాంతీకరణను వివరించి, ఈ ప్రక్రియ ద్వారా అల్ప ఉష్ణోగ్రత ఉత్పత్తి చేసే పద్ధతిని తెల్పండి.

5. (a) State and deduce Wien's displacement law in case of black body radiation.

కృష్ణ వస్తువు వికరణమునకు వీన్ స్థానభ్రంశ నియమాన్ని తెలిపి, సమీకరణాన్ని ఉత్పాదించుము.

Or

- (b) Derive Planck's law of radiation.

ప్లాంక్ వికరణ సూత్రాన్ని రాబట్టుము.

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

ఏవేని ఐదు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

6. Write a short note on transport phenomena.

అభివమన దృగ్విషయాలు పై లఘు వ్యాఖ్యము వ్రాయుము.

7. If the diameter of molecules of a gas 2.5×10^{-10} m and molecular density is $3 \times 10^{25} \text{ m}^{-3}$ then find the molecular path.

ఒక వాయువులోని అణువుల సగటు వ్యాసము 2.5×10^{-10} m మరియు అణువుల సాంద్రత $3 \times 10^{25} \text{ m}^{-3}$ అయినచో అణువు స్వేచ్ఛ వధ మధ్యమమును లెక్కించుము.

8. State second law of thermodynamics.

ఉష్ణగతిక శాస్త్ర రెండవ నియమాన్ని తెల్పండి.

9. Calculate the efficiency of a heat engine that operates between the temperatures 187°C and 72°C.

187°C మరియు 72°C ల మధ్య పని చేసే ఉత్తమనీయ యంత్రము యొక్క దక్షతను కనుగొనుము.

10. State and explain Clausius — Clayperons equation.

క్లాపియన్-క్లెయిరాన్ సమీకరణమును వ్రాసి వివరించుము.

11. Calculate the temperature inversion of hydrogen and helium. The critical temperature of hydrogen and helium are 29.5 K and 1.26 K respectively,

హైడ్రోజన్ మరియు హీలియం సందిగ్ధ ఉష్ణోగ్రతలు 29.5 K మరియు 1.26 K అయితే వాటి విలోమన ఉష్ణోగ్రతలను లెక్కించండి.

12. Write the applications of substances at low temperature

అల్ప ఉష్ణోగ్రతల వద్ద వుండే వదార్థాల అనువర్తనాలను వ్రాయండి.

13. Calculate the temperature of black body, whose wave length for maximum emissive power is 4573A° (Wein's constant = $2.9 \times 10^{-3}mk$)

గరిష్ట ఉద్గరణ సామర్థ్యపు తరంగదైర్ఘ్యం 4573A° వుండే కృష్ణ వస్తువు ఉష్ణోగ్రతను లెక్కించండి. (వీన్స్ స్థిరాంకము = $2.9 \times 10^{-3}mk$)

14. Describe the temperature of the sun.

సూర్యుణి ఉష్ణోగ్రతను వివరించండి.

15. Explain about Kirchhoff's law and Stefan-Boltzmann's law

కిర్చోఫ్ నియమము మరియు స్టీఫన్-బోల్ట్జ్ మాన్ నియమమును గురించి వివరించండి.

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THREE YEAR B.Sc.(CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Physics (With maths)

Paper – III : WAVE OPTICS

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

ఏవేని ఐదు ప్రశ్నలకు సమాధానాలిమ్ము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

1. Write a short note on astigmatism.

బిందు విస్తరణ గురించి లఘు వ్యాఖ్య వ్రాయుము.

2. Two lenses of focal length 16 cm and 8 cm are placed at a certain distance apart. Calculate the distance between the lenses if they form an achromatic combination.

కొంత దూరంలో వేరు వేయబడిన రెండు సహజ కుంభాకార కటకాల నాభ్యాంతరాలు 16 cm మరియు 8 cm. ఈ కటక సంయోగము ఆవర్ణ వివధన పరతులను తృప్తి పరిస్తే కటకాల మధ్య దూరం ఎంత?

3. Write a short note on colours in thin films.

పలుచని పొరలలో రంగుల గురించి వ్రాయండి.

4. If the movable mirror of Michelson interferometer is moved through a distance of 0.02945 mm, a shift of 100 fringes is observed. Calculate the wavelength of light used.

మైకల్సన్ వ్యతికరణ మాపకంలోని దర్పణాన్ని 0.02945 mm, దూరం కదిలించినప్పుడు 100 వట్టికలు స్థానభ్రంశం చెందినవి. కాంతి తరంగదైర్ఘ్యమును లెక్కింపుము.

5. What are the differences between Fresnel and Fraunhofer diffraction.

ఫ్రెనెల్ మరియు ఫ్రాన్హోఫర్ వివర్తనముల మధ్య తేడాలను వివరించండి.

6. How many lines are there on a grating if the angle of diffraction is 30° for the first order when the light of wavelength 600 nm is incident on the grating normally.

తరంగదైర్ఘ్యము 600 nm ఉన్న కాంతి ఒక గ్రేటింగ్ తలానికి లంబంగా పతనమయినప్పుడు ఏర్పడిన మొదటి తరగతి వివర్తన కోణం 30° అయిన, గ్రేటింగ్ తలంపై గల గీతల సంఖ్యను కనుగొనండి.

7. Describe Malus law.

మాలస్ నియమాన్ని గురించి వర్ణించండి.

8. Calculate the thickness of half wave plate for wavelength 5000\AA (given $\mu_e = 1.553$ and $\mu_o = 1.544$).

5000\AA తరంగదైర్ఘ్య కాంతికి కావలసిన అర్ధపలక మందము కనుగొనుము (ఇచ్చినది $\mu_e = 1.553$ మరియు $\mu_o = 1.544$).

9. What is population inversion? Mention a few methods to achieve it.

జనాభా విలోమము అనగానేమి? దాన్ని పొందడానికి కొన్ని పద్ధతులను తెలవండి.

10. In an optical fibre, the refractive index of the core is 1.58 and that of the cladding is 1.54 find the critical angle.

ఒక దృశ్య తంతువులో కోర్ యొక్క ప్రకీభవన గుణకం 1.58 మరియు క్లాడింగ్ యొక్క ప్రకీభవన గుణకము 1.54 అయిన, దాని సందిగ్ధ కోణాన్ని కనుగొనుము.

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

అన్ని ప్రశ్నలకు సమాధానాలిమ్ము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

11. What is spherical aberration? And how it can be eliminated.

గోళీయ వివర్తనమును అనగానేమి? దానిని నివారించే పద్ధతులు తెలుపుము.

Or

12. Explain coma and distortion along with the methods of minimization.

కేంద్రకావరణం మరియు వికృతిలను గురించి వివరించి వాటి, నివారణ పద్ధతులను తెలుపుము.

13. Explain the formation of Newton's rings. And also explain how the wavelength of a monochromatic light is determined using this.

న్యూటన్ వలయాలు ఏర్పడటం వివరించి, వాటి సహాయంతో ఏక వర్ణ కాంతి తరంగదైర్ఘ్యమును కనుగొను ప్రయోగమును వివరించుము.

Or

14. Discuss how the wavelength of light is determined using Michelson interferometer.

మైఖేల్సన్ వ్యతికరణ మాపకమును ఉపయోగించి కాంతి యొక్క తరంగదైర్ఘ్యమును ఏ విధంగా కనుగొంటారో చర్చించుము.

15. Explain Fraunhofer diffraction due to a single slit.

ఫ్రాన్హోఫర్ ఒంటి చీలిక ప్రయోగమును గురించి వివరించుము.

Or

16. Explain the construction and working of a zone plate.

జోన్ ఫలక యొక్క నిర్మాణము మరియు పని చేయు విధానమును తెలుపుము.

17. Explain the construction and working of Nicol's prism.

నికాల్ వట్టకము యొక్క నిర్మాణము మరియు పనిచేయు విధానమును తెలుపుము.

Or

18. Explain the production of plane, circular and elliptically polarized light.

సమతల, వృత్తాకార మరియు శంఖాకార ధృవిత కాంతిని ఏ విధంగా ఉత్పత్తి చేయవచ్చునో వివరించండి.

19. Explain construction and working of He-Ni laser.

హీలియం-నియాన్ లేజర్ యొక్క నిర్మాణము మరియు పనిచేయు విధానమును తెలుపుము.

Or

20. Explain the principle of and working up optical fibre communication system.

దృశ్య తంతు సమాచార వ్యవస్థ పని చేయు విధానంలో ఇమిడి ఉన్న సూత్రాన్ని తెలియజేయండి.

3 MN 60902

U.G. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Physics (Minor)

Course 5 : OPTICS

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. What is coma? How it can be minimised?
2. Write a short note on curvature of field.
3. Discuss the important conditions for interference of light.
4. Write a short note on formation of colours of thin films.
5. Distinguish between Fresnel and Fraunhofer classes of diffraction
6. Define Resolving power of a grating and obtain an expression for it
7. Explain the phenomenon of double refraction.
8. Write a short note on the law of Malus.
9. What is Laser? Distinguish between Spontaneous and Stimulated emission?
10. Write the applications of Holography.

SECTION B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. What is Chromatic aberration? Derive the condition for achromatism when two lenses are in contact.

Or

12. What is Spherical Aberration in a lens. Briefly describe the methods to minimise spherical aberration.
13. Describe Fresnel's biprism method of producing interference fringes and determining the wave length of light.

Or

14. Describe Newton's rings method for measuring the wave length of monochromatic light. Give necessary theory.

15. Describe with necessary theory how the wavelength of monochromatic light is determined using a plane diffraction grating?

Or

16. Describe the construction and working of zone plate. Compare the zone plate with convex lens.

17. Explain the construction and working of Nicol prism. Write its uses.

Or

18. Describe the construction and working of Laurent's half shade Polarimeter. Explain how it can be used to determine the specific rotation of sugar solution.

19. Describe the construction and working of Ruby Laser.

Or

20. Describe the construction and working of He-Ne Laser.

3 MJ 30108

B.C.A. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024

THIRD SEMESTER

COURSE – VIII: SOFTWARE ENGINEERING

(w.e.f. 2023-24)

(Major)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

1. Explain the Planning activities of software project.
2. What is Software Engineering? Explain size factors.
3. Explain COCOMO Model.
4. Explain Notations in Formal specification techniques.
5. Explain Top-down and Bottom-up approach in design techniques.
6. What is Inspection and walkthrough in software Engineering?
7. Explain Golden rules used for user interface design.
8. Explain the Human factors.
9. What is Black box Testing?
10. Explain in detail about Formal technical review.

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

11. What are the steps involved in planning a software project?
- Or
12. Mention the factors that influence quality and productivity.

13. What is Requirement analysis? List out the tasks carried by requirement analysis.

Or

14. Define Estimation. Mention the types of estimation.

15. Describe the architecture design of software.

Or

16. List out fundamental design concepts.

17. Explain in detail spiral model of user interface design process.

Or

18. Explain the Human computer interaction and its goals.

19. Explain software reliability in Software quality assurance.

Or

20. What are the different Project management tools? Explain them.

3 MJ 30107

THREE YEAR B.C.A. (CBCS) DEGREE EXAMINATION NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Course - VII : OBJECT ORIENTED PROGRAMMING THROUGH JAVA

(w.e.f. 2023-24)

(Major)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

1. Explain about applications OOPs.
2. Explain about command line arguments.
3. Explain about if- else statement.
4. What is a constructor? Explain about parameterized constructor?
5. Explain about final variables and class in java.
6. Define interface? Explain how to extending interfaces.
7. Explain how to adding a class to package.
8. Explain about thread priority.
9. Explain about limitations of error handling.
10. What is HTML? Explain about HTML applet tag.

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

11. Explain Basic Concepts of Object Oriented Programming.

Or

12. Explain structure of java program with example.
13. Explain about repetitive loops in java.

Or

14. What is an array? Explain types of arrays in java?

15. What is an inheritance? Explain different types of inheritance?

Or

16. What is a string? Explain different types of string methods in java?

17. What is a package? Explain about java API packages?

Or

18. What is a Thread? Explain about life cycle of a thread?

19. What is Exception Handling? Write a simple program using exceptions?

Or

20. What is applet? Explain about applet life cycle?

3 MJ 60507

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Computer Science (Major)

COMPUTER ORGANIZATION

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

Each question carries 4 marks.

1. Write the purpose of register transfer language in computer organization.
2. Define bus and memory transfers with a brief example.
3. What are addressing modes in CPU architecture?
4. Explain the concept of control memory.
5. What is associative memory?
6. Describe the concept of memory hierarchy.
7. What are peripheral devices in a computer system?
8. Define asynchronous data transfer.
9. How is floating point representation used for data in computers?
10. What is the difference between instruction pipeline and arithmetic pipeline?

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Discuss the different types of micro-operations and their functions within a CPU.

Or

12. Explain the basic instruction cycle and its phases in computer organization.
13. Describe micro-programmed control and hard-wired control. Compare both.

Or

14. Explain the various instruction formats in a Central Processing Unit (CPU) with examples.

15. Explain the working and importance of cache memory in computer systems.

Or

16. Discuss the mapping techniques used in cache memory.

17. Explain programmed I/O and Direct Memory Access (DMA) with examples.

Or

18. Discuss the role of an Input-Output Processor (IOP) and how it works in managing data transfer.

19. Describe the algorithm for floating-point addition and subtraction.

Or

20. Explain parallel processing and describe the concepts of pipelining in computer architecture.

3 MN 60502

THREE YEAR U.G. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Computer Science (Minor)

OBJECT ORIENTED PROGRAMMING USING JAVA

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

Each question carries 4 marks.

1. What is the difference between procedural and object-oriented programming?
2. What are control statements in Java?
3. Explain the concept of a command-line argument with an example.
4. How do constructors differ from methods in Java?
5. What are the different types of inheritance in Java?
6. What is method overloading, and how does it differ from method overriding?
7. Explain the purpose of packages in Java.
8. What are built-in exceptions in Java? Provide examples.
9. What is the difference between serialization and deserialization in Java?
10. What is the delegation event model in event handling?

SECTION B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Discuss the object-oriented programming paradigm in Java.

Or

12. Explain how Java's type casting mechanism works. Give examples of both implicit and explicit casting.
13. What are static fields and methods in Java? Explain their significance with an example.

Or

14. Discuss the importance of constructors in Java. Explain how constructors can be overloaded.

15. Explain the role of the 'super' keyword in accessing superclass members. Provide examples.

Or

16. How does Java implement dynamic binding? Explain with examples.

17. Discuss the benefits and limitations of exception handling in Java.

Or

18. Explain how multiple threads are created and managed in Java.

19. Describe the usage of byte streams and character streams in Java. Provide examples.

Or

20. Discuss how the event delegation model works in Java's event-handling mechanism.

3 MJ 60508

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024

THIRD SEMESTER

Computer Science

OPERATING SYSTEMS

(Major)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

Each question carries 4 marks.

1. What is an operating system and its basic functions?
2. Differentiate between time-sharing and multiprogramming systems.
3. What is the role of system calls in an operating system?
4. Define process hierarchy and explain its significance.
5. What is deadlock, and what are the necessary conditions for its occurrence?
6. Explain the concept of semaphores in process synchronization.
7. What is paging in memory management?
8. Differentiate between physical and virtual address space.
9. Explain the concept of file allocation methods.
10. What are pipes in operating systems and how are they used?

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Discuss the history and evolution of operating systems and how they have shaped modern computing.
Or
12. Compare and contrast real-time operating systems with batch processing systems.
13. Explain the various process scheduling algorithms, with a focus on non-preemptive and preemptive scheduling..
Or
14. Discuss the threading model in operating systems and explain the role of thread libraries.

15. What is deadlock avoidance? Discuss various strategies for avoiding deadlock in a system.

Or

16. Explain the classical synchronization problem of producer-consumer using semaphores.

17. Discuss the fixed and variable partitioning strategies in memory allocation.

Or

18. Explain virtual memory and the paging technique used in modern operating systems.

19. Describe disk scheduling algorithms and their significance in improving system performance.

Or

20. Explain the concept of shared memory and how it helps in inter-process communication.

RS 55017

THREE YEAR B.A./B.Sc./B.Com. (CBCS) DEGREE EXAMINATION
NOVEMBER/DECEMBER 2024

FIFTH SEMESTER

Computer Applications

DATABASE MANAGEMENT SYSTEM

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

-
- I. Answer any FIVE questions. (5 × 5 = 25)
1. What is Database Management System? Explain.
 2. Explain Evolution of Database Management Systems.
 3. Discuss DBMS Approach.
 4. Write about Database Architecture.
 5. Explain about Generalization.
 6. Describe Concept of Relational Integrity.
 7. Briefly explain about History of SQL Standard.
 8. Discuss Aggregate Functions.
 9. Define Cursor. Explain in detail.
 10. Write the steps of create a PL/SQL Program.
- II. Answer ALL questions. (5 × 10 = 50)
11. Write the following:
 - (a) Data and Information
 - (b) Database
 12. Explain Classification of Database Management System.

13. Briefly explain about Data models.
 14. Discuss components of Database System.
 15. Describe the Building Blocks of an Entity-Relationship.
 16. Write a detailed note on Relationship Classification.
 17. Explain Selection Operation and Projection Operation.
 18. Write about Table Modification Commands with example.
 19. Explain Iterative Control Statements with syntax and example.
 20. Discuss about Exception Handlings in PL/SQL.
-

3 MJ 30107

THREE YEAR B.C.A. (CBCS) DEGREE EXAMINATION NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Course - VII : OBJECT ORIENTED PROGRAMMING THROUGH JAVA

(w.e.f. 2023-24)

(Major)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

1. Explain about applications OOPs.
2. Explain about command line arguments.
3. Explain about if- else statement.
4. What is a constructor? Explain about parameterized constructor?
5. Explain about final variables and class in java.
6. Define interface? Explain how to extending interfaces.
7. Explain how to adding a class to package.
8. Explain about thread priority.
9. Explain about limitations of error handling.
10. What is HTML? Explain about HTML applet tag.

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

11. Explain Basic Concepts of Object Oriented Programming.

Or

12. Explain structure of java program with example.
13. Explain about repetitive loops in java.

Or

14. What is an array? Explain types of arrays in java?

15. What is an inheritance? Explain different types of inheritance?

Or

16. What is a string? Explain different types of string methods in java?

17. What is a package? Explain about java API packages?

Or

18. What is a Thread? Explain about life cycle of a thread?

19. What is Exception Handling? Write a simple program using exceptions?

Or

20. What is applet? Explain about applet life cycle?

RS 36073

THREE YEAR B.A./B.Sc./B.Com. (CBCS) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024

THIRD SEMESTER

Computer Science

Paper III : OBJECT ORIENTED PROGRAMMING USING JAVA

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions

1. Write about Java Virtual Machine.
2. Discuss a note on Scope of Variables.
3. Describe how to Evaluation of Expressions.
4. Explain the Else If Ladder with syntax and example.
5. What is Inheritance? Explain in detail.
6. Define Vector and Wrapper Classes. Explain.
7. Explain how to accessing Interface Variables.
8. Write short notes on Synchronization.
9. Explain Syntax of Exception Handling Code.
10. How to adding Applet to HTML file?

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

11. Write the following:
 - (a) Benefits of OOP
 - (b) Applications of OOP

Or
12. Discuss about Java Statements.
13. Write a detailed note on Operators.

Or
14. Explain the For statement with syntax and example.

15. Briefly explain about Methods Overloading.

Or

16. Define Array. Explain about Two dimensional Array.

17. Write about Multiple Inheritance.

Or

18. What is Thread? Explain Stopping and Blocking a Thread.

19. Discuss about Types of Errors.

Or

20. Explain Passing Parameters to Applets.

2RS31013

Three Year B.A./B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

Third SEMESTER

Computer Applications

Course C3 : DATA BASE MANAGEMENT SYSTEM

(w.e.f. the academic year 2020-21)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

1. Define instances and schemas of database?
2. Differentiate between specialization and generalization.
3. Write about referential integrity.
4. Describe the Project operation.
5. Define the Select operation.
6. Explain purpose of Entity Integrity.
7. What is constraint? Discuss about domain constraint and key constraint with suitable example.
8. Explain SELECT, FROM AND WHERE clauses.

PART B — (5 × 10 = 50 marks)

Answer FIVE questions.

9. (a) Discuss about different types of Data models
Or
(b) Explain about Database Architecture.
10. (a) What is an Entity? Explain different type of Entities.
Or
(b) What is relationship? Explain types of relation with example.

11. (a) What is functional dependency? Write an algorithm to find a minimal cover for a set of functional dependencies.

Or

(b) What is normalization? Differentiate between 3NF and BCNF.

12. (a) Explain set operations of relational algebra with examples?

Or

(b) Discuss various types of join operations with examples.

13. (a) Explain SQL Data types.

Or

(b) Differentiate between the following SQL statements.

(i) DROP and DELETE

(ii) ALTER and UPDATE.

3 MJ 60506

THREE YEAR B.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Computer Science

DATA STRUCTURES USING C

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

Each question carries 4 marks.

1. What is space complexity, and how does it affect algorithm performance?
2. Describe the different types of data structures with examples.
3. Explain how linked lists are represented in memory.
4. What is the advantage of a circular singly linked list over a singly linked list?
5. How is a stack represented using an array?
6. What are circular queues, and how are they different from linear queues?
7. What is the difference between linear search and binary search? -
8. Explain the working of insertion sort.
9. What is a complete binary tree, and how does it differ from a regular binary tree?
10. What is the adjacency matrix representation of a graph?

SECTION B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Define and explain asymptotic notation with examples.

Or

12. Write an algorithm for inserting an element into a two-dimensional array.
13. Explain the different types of linked lists and their advantages and disadvantages.

Or

14. Write the algorithm to traverse a doubly linked list and explain its time complexity.

15. Discuss the tower of Hanoi problem and its solution using recursion.

Or

16. Explain the implementation of circular queues using a linked list with an algorithm.

17. Compare and contrast binary search and indexed sequential search.

Or

18. Write an algorithm for merge sort and explain its time complexity.

19. Discuss binary tree traversal methods with examples.

Or

20. Explain the concept of graph traversal and compare DFS and BFS.

3 MJ 30106

THREE YEAR B.C.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Course VI — DATA STRUCTURES

(w.e.f. 2023-24)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

1. What is data structure? Explain about data structure operations.
2. Explain about mathematical notation and functions in Data structures.
3. Explain about Linear Array.
4. Difference between pointers and arrays.
5. Explain about Dynamic memory allocations.
6. What is a recursion? Explain about towers of Hanoi with recursion.
7. What is a queue? Explain applications of Queues.
8. Explain about insertion sort.
9. What are the applications of Binary Tree?
10. What is a graph? Explain the types of operations in graphs.

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

11. What is an algorithm? Explain about Asymptotic Analysis of algorithms.

Or

12. Explain about different data types.

13. How to passing an array to function with example?

Or

14. Explain about Sparse matrices.

15. What is a linked list? Explain types of linked list.

Or

16. What is a stack? Explain operations on stacks with example.

17. Explain linked representation of Queues with example.

Or

18. What is a searching? Explain different types of searching?

19. What is a binary search tree? Explain binary search tree operations.

Or

20. Explain sequential representation of Graphs with example.

3 MJ 60505

THREE YEAR B.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Computer Science

OBJECT ORIENTED PROGRAMMING USING JAVA

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

Each question carries 4 marks.

1. Define object-oriented programming and how it differs from procedural programming.
2. What are the key features of Java?
3. Explain the use of command-line arguments in Java.
4. What is the purpose of the 'this' keyword in Java?
5. Define inheritance and its importance in object-oriented programming.
6. What is method overriding, and how does it relate to polymorphism?
7. How are interfaces different from abstract classes in Java?
8. What is the role of the 'try', 'catch', and 'finally' blocks in exception handling?
9. Explain the differences between multiple processes and multiple threads.
10. What is a layout manager in GUI programming with Swing?

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Describe the basic concepts of object-oriented programming, and explain how they are implemented in Java.

Or

12. Discuss the use of control statements in Java with examples.
13. Explain the usage of arrays and string manipulation methods in Java.

Or

14. What are constructors in Java? Explain the concept of overloading constructors with examples.

15. Discuss the importance of polymorphism in Java, with examples of dynamic binding and method overriding.

Or

16. Explain the concept of abstract classes and methods in Java. Provide examples.

17. How is exception handling managed in Java? Discuss the types of exceptions and provide examples of checked and unchecked exceptions.

Or

18. Describe thread synchronization and inter-thread communication with examples.

19. Explain the MVC architecture in Swing GUI programming and describe the usage of any two layout managers.

Or

20. Discuss event handling in Java. Explain how mouse and keyboard events are handled.

3 MJ 30105

THREE YEAR B.C.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Course V – DATA BASE MANAGEMENT SYSTEM

(W.e.f. 2023-24)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

1. Explain three tier schema architecture for data independence.
2. What is Data Base System? Explain advantages of data base system.
3. Explain about Relational algebra.
4. What is constraint? Explain different types of constraints.
5. Explain Inheritance in ER model.
6. Explain Aggregation functions in SQL.
7. Explain DCL commands.
8. Explain about Nested queries in SQL.
9. What is Transaction? Explain ACID properties of transaction.
10. Explain about cursors in PL/SQL?

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

11. What is database system? Explain components of data base system?

Or

12. What is Data Model? Explain different types of data models.

13. What is Normalization? Explain different types of basic normal forms.

Or

14. What is a Key? Explain about different types of keys with example.

15. What is an ER diagram? Explain different notations with example.

Or

16. What are the Data Types in SQL?

17. What is Join? Explain different types of joins in SQL.

Or

18. What are Relational set operations in SQL? Explain its types with syntax.

19. What is Exception handling in PL/SQL and its types?

Or

20. What is Serializability? Describe about testing for serializability.

SC312

U.G. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

INFORMATION AND COMMUNICATION TECHNOLOGY

Time : Two hours

Maximum : 50 marks

(No additional sheet will be supplied)

Answer any FIVE of the following questions.

(5 × 10 = 50)

1. Explain the term "Internet applications" with examples.
 2. What is meant by Internet Addressing?
 3. How do you perform a search on the Internet?
 4. What are the components of an E-mail message?
 5. Describe the concept of domain names in E-mail.
 6. What is the role of mailers in E-mail management?
 7. What are the copyright issues associated with the Internet?
 8. Discuss the role of firewalls in network security.
 9. What measures can be taken to ensure secure E-mails?
 10. Describe the concept of E-mail threats and provide examples.
-

6

3 MN 50202

THREE YEAR U.G. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Computer Application (Minor)

Course II — DATABASE MANAGEMENT SYSTEMS

(w.e.f. 2023 – 24)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

1. Explain three tier schema architecture of DBMS.
2. What is Data Base System? Explain advantages of date base system.
3. Explain about Relational algebra.
4. What is constraint? Explain different types of constraints.
5. Explain Inheritance in ER model.
6. Explain Aggregation functions in SQL.
7. Explain DCL commands.
8. Explain about Nested queries in SQL.
9. What is Transaction? Explain ACID properties of transaction.
10. Explain about cursors in PL/SQL.

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

11. What is database system? List out difference between database and file system.

Or

12. What is Data Model? Explain different types of data models.

13. Explain Normalizations in DBMS.

Or

14. What is a Key? Explain about different types of keys with example.

15. What is an ER diagram? Explain different notations with example.

Or

16. What are the Data Types in SQL?

17. What is Join? Explain different types of joins in SQL.

Or

18. What are Relational set operations in SQL? Explain its types with syntax.

19. What is Exception handling in PL/SQL and its types?

Or

20. What is Serializability? Describe about testing for serializability.

MDC 311

THREE YEAR U.G. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Multi Disciplinary Course – HEALTH AND HYGIENE

(w.e.f. 2023-24)

Time : Two hours

Maximum : 50 marks

(No additional sheet will be supplied)

Answer any FIVE of the following questions.

(5 × 10 = 50)

1. Write brief account on Water- soluble vitamins, sources and deficiency effects.
 2. Define the balanced diet and malnutrition, explain the diseases of malnutrition
 3. Write an essay on Personal Hygiene methods.
 4. Write an essay on WASH (Water, Sanitation and Hygiene) programme.
 5. Describe the functions, dietary sources and deficiency effects of lipids body.
 6. Explain the Roles and Responsibilities ASHA.
 7. Write an Essay on Aims and Activities of UNICEF-INDIA.
 8. Write a short notes on Ayushman Bharat App and Aarogya Setu App.
 9. Explain any two child health care Schemes introduced by Government of India.
 10. Describe the Aims and Objectives of ICMR and WHO.
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MDC 307

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024

THIRD SEMESTER

Multidisciplinary Course (MDC)

INTRODUCTION TO PUBLIC ADMINISTRATION

Time : Two hours

Maximum : 50 marks

(No additional sheet will be supplied)

Answer any FIVE of the following.

Each question carries 10 marks.

(5 × 10 = 50)

1. Write an essay on Meaning, Definition, Nature and Scope of Public Administration.
 2. Explain the views of Woodrow Wilson on Public Administration.
 3. Elaborate the nature and significance of Public and Private Administration.
 4. Examine the composition, powers and functions of APPSC.
 5. Explain the composition, powers and functions of NITI Ayog.
 6. Elaborate the origin and historical development of All India Services in India.
 7. Write an essay on nature and importance of Judicial Activism.
 8. Write an essay on meaning, definitions, scope and importance of E-Governance in India.
 9. Explain the role, powers and functions of judiciary in public administration.
 10. Write an essay on principles and initiatives of Good Governance.
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MDC 311

THREE YEAR U.G. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Multi Disciplinary Course – HEALTH AND HYGIENE

(w.e.f. 2023-24)

Time : Two hours

Maximum : 50 marks

(No additional sheet will be supplied)

Answer any FIVE of the following questions.

(5 × 10 = 50)

1. Write brief account on Water- soluble vitamins, sources and deficiency effects.
 2. Define the balanced diet and malnutrition, explain the diseases of malnutrition
 3. Write an essay on Personal Hygiene methods.
 4. Write an essay on WASH (Water, Sanitation and Hygiene) programme.
 5. Describe the functions, dietary sources and deficiency effects of lipids body.
 6. Explain the Roles and Responsibilities ASHA.
 7. Write an Essay on Aims and Activities of UNICEF-INDIA.
 8. Write a short notes on Ayushman Bharat App and Aarogya Setu App.
 9. Explain any two child health care Schemes introduced by Government of India.
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GOVERNMENT COLLEGE, RAYACHOTY

Affiliated to Yogi Vemana University

Rayachoty - 516269



QUESTION PAPERS

III - SEMESTER

BOTANY

ZOOLOGY

CHEMISTRY

NOVEMBER-DECEMBER-2024

3 MN 60302

THREE YEAR B.Sc. (CBCS) (Hons) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Botany (Minor)

VASCULAR PLANTS

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. Prothallus
2. Omega taxonomy
3. Artificial system of classification
4. Androecium in Cucurbitaceae
5. Chemotaxonomy
6. OTUs
7. *Marselia* Sporocarp
8. *Cycas* Ovule
9. Spikelet
10. Angiosperm characters in *Gnetum*

SECTION B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Explain the different types of steles in *Lycopodium* stem.

Or

12. Describe the internal structure of *Marselia* rhizome.
13. Describe the internal structure of *Cycas* leaflet.

Or

14. Explain the general characteristics of gymnosperms and add a note on Sporne's classification.

15. Give an account of Bentham and Hooker system of classification. Discuss its merits and demerits.

Or

16. Define herbarium. Describe the techniques of herbarium and add a note on digital herbaria.

17. Describe the floral characters of the family Asclepiadaceae.

Or

18. Enumerate the floral characters of Euphorbiaceae. Mention the botanical names of any five plants of economic importance and their uses.

19. Explain the role of anatomy in relation to plant systematics.

Or

20. Write an essay on the origin and evolution of angiosperms.

RS 36043

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Botany

Paper – III: PLANT TAXONOMY AND EMBRYOLOGY

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

ఏవైనా ఐదు ప్రశ్నలకు సమాధానం ఇవ్వండి.

ప్రతి ప్రశ్నకు 5 మార్కులు.

1. Binomial nomenclature.
ద్విసామీకరణ.
2. Botanical gardens.
వృక్షశాస్త్ర ఉద్యానవనం (బొటానికల్ గార్డెన్స్)
3. Define Artificial and Natural classification.
కృత్రిమ మరియు సహజ వర్గీకరణను వ్రాయుము.
4. Identification, Nomenclature of plants.
మొక్కలను గుర్తించుట నామీకరణ.
5. Economical importance of Annonaceae.
అనోనేసి ఆర్థిక ప్రాముఖ్యత.
6. Tendrils in Cucurbitaceae.
కుకూర్బిటేసిలో సులితీగలు.
7. Head or Capitulum.
శీర్షవత్ పుష్ప విన్యాసం.

8. Economical importance of Poaceae.

పాపియేసి కుటుంబపు ఆర్థిక ప్రాముఖ్యత.

9. Types of ovules.

అండాల రకాల.

10. Polyembryony.

బహుపిండత.

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

అన్ని ప్రశ్నలకు సమాధానం వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

11. Describe the Importance characters of ICBN – rules.

ICBN (అంతర్జాతీయ వృక్షనామీకరణ నియమావళి) యొక్క ముఖ్యమైన నియమాలను వివరించండి.

Or

12. Describe the functions and importance of herbarium.

హెర్బేరియం యొక్క విధులు మరియు ప్రాముఖ్యతను వివరించండి.

13. Write an essay on Bentham and Hooker's system of classification. Discuss it's merits and demerits.

బెంథమ్ మరియు హూకర్స్ వర్గీకరణ వ్యవస్థపై ఒక వ్యాసం రాయండి, దాని యోగ్యతలు మరియు లోపాలు గురించి చర్చించండి.

Or

14. Write about Engler and Prantle's system of classification. Discuss it's merits and demerits.

ఎంగ్లర్ మరియు ప్రాంటిల్ యొక్క వర్గీకరణ వ్యవస్థ గురించి వ్రాయండి, దాని యోగ్యతలు మరియు లోపాలు గురించి చర్చించండి.

15. Describe the vegetative, floral characters and economic importance of Rutaceae.

రూటేసి కుటుంబపు శాఖీయ, పుష్ప లక్షణాలు మరియు ఆర్థిక ప్రాముఖ్యతను వర్ణించండి.

Or

16. Explain the vegetative floral character and economic importance of Apiaceae.

ఏపియేసి కుటుంబపు శాఖీయ, పుష్ప లక్షణాలు మరియు ఆర్థిక ప్రాముఖ్యతను వర్ణించండి.

17. Describe the vegetative, floral characters and economic importance of Arecaceae.
ఆరకేసి కుటుంబపు శాఖీయ, పుష్ప లక్షణాలు మరియు ఆర్థిక ప్రాముఖ్యతను వర్ణించండి.

Or

18. Explain the vegetable, floral characters and economic importance of Lamiaceae.
లామియేసి కుటుంబపు శాఖీయ, పుష్ప లక్షణాలు మరియు ఆర్థిక ప్రాముఖ్యతను వర్ణించండి.

19. Describe the process of Fertilization in angiosperms.
ఆవృత బీజాలలో ఫలదీ కరణ ప్రక్రియను వివరించండి.

Or

20. Explain the development of Dicot embryo.
ద్విదళబీజ పిండం అభివృద్ధిని వివరించండి.

3 MJ 60205

THREE YEAR B.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Biotechnology

PLANT AND ANIMAL BIOTECHNOLOGY

(W.e.f. 2023-24)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. Define totipotency.
2. Applications of micropropagation in plant tissue culture.
3. What are synthetic seeds?
4. Applications of Agrobacterium-mediated gene transfer.
5. Applications of RAPD as a molecular marker.
6. What is primary cell culture?
7. Production of recombinant insulin.
8. Bioethics in cloning and stem cell research.
9. Animal rights.
10. RAPD.

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. (a) Explain the importance of media and plant hormones in plant tissue culture.
Or
(b) Describe the importance of plant secondary metabolites.
12. (a) Explain the development of herbicide-resistant plants using glyphosate.
Or
(b) Describe the process of creating transgenic plants as bioreactors.
13. (a) Describe the process and significance of cryopreservation in animal cell culture.
Or
(b) Explain the methods of transfection, including calcium phosphate precipitation and microinjection.

14. (a) Explain the gene therapy and its applications.

Or

(b) Describe the concept and ethical considerations surrounding transgenic animals.

15. (a) Explain the concept of biosafety, including biological safety cabinets and biosafety levels.

Or

(b) Discuss the types of intellectual property (IP) and their significance.

3 MJ 60207

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Biotechnology (Major)

GENETIC ENGINEERING

(w.e.f. 2023-24)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. Scope of genetic engineering
2. Role and function of restriction enzymes in genetic engineering
3. Gene transfer methods
4. Cosmid vectors
5. Applications of PCR in genetic engineering
6. cDNA libraries
7. Gene silencing
8. Human Genome Project and its significance
9. Linkers
10. Pyrosequencing

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. (a) Discuss the history and recent developments in genetic engineering.

Or

- (b) Describe the functions of modifying enzymes in genetic engineering.

12. (a) Explain the features and uses of pBR322 and pUC19 plasmid vectors.

Or

- (b) Describe shuttle vectors and expression vectors, and explain their significance in cloning.

13. (a) Describe the principle and applications of radioactive and non-radioactive probes in hybridization techniques.

Or

- (b) Explain the process of DNA labeling through nick translation and random priming.

14. (a) Discuss strategies for gene delivery and in vitro translation.

Or

- (b) Explain how gene expression is conducted in bacteria.

15. (a) Describe the Sanger DNA sequencing methods.

Or

- (b) Discuss the concept and applications of gene therapy.
-

2 RS 36033

THREE YEAR B.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Biotechnology

IMMUNOLOGY AND rDNA TECHNOLOGY

(w.e.f. 2020-21 admitted batch)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

Draw diagrams wherever necessary.

ఏవేని ఐదు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

అవసరమైన చోట రేఖా చిత్రాలను గీయండి.

1. Cell mediated Immune response

సెల్ మధ్యవర్తిత్వ నిరోధక ప్రతి స్పందన

2. Structure of antibody

యాంటీబాడీ నిర్మాణం

3. Recombinant Vaccines

రీకాంబినెంట్ వీకాసులు

4. Hypersensitivity

అతిసున్నితత్వం

5. Plasmids

ప్లాస్మిడ్లు

6. Applications of PCR

పిసిఆర్ యొక్క అనువర్తనాలు

7. Protein BLAST analysis

ప్రోటీన్ బ్లాస్ట్ విశ్లేషణ

8. NCBL, EMBL

NCBL, EMBL

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

Draw diagrams wherever necessary.

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

అవసరమైన చోట రేఖా చిత్రాలను గీయండి.

9. (a) Write about the types of Immunity.
రోగ నిరోధక యొక్క రకాలను గురించి వ్రాయుము.
- Or
- (b) Explain about Secondary lymphoid organs.
ద్వితీయ లింఫాయిడ్ అవయవాలు గురించి వివరించండి.
10. (a) Describe about ELISA.
ELISA గురించి వర్ణించండి.
- Or
- (b) Explain about Agglutination and Immune diffusion.
అగ్గు టినేషన్ మరియు ఇమ్యూన్ డిఫ్యూషన్ గురించి వివరించండి.
11. (a) Describe about Restriction endonucleases and DNA ligase
పరిమితి ఎండోన్యూక్లియేస్‌లు మరియు డిఎన్ఏ లైగేస్‌లను గురించి వర్ణించండి.
- Or
- (b) Explain about Southern and Western blotting.
సథరన్ మరియు వెస్టర్న్ బ్లాటింగ్ గురించి వివరించండి.
12. (a) Write about CDNA library construction.
CDNA గ్రంథాలయము నిర్మాణం గురించి వ్రాయుము.
- Or
- (b) Explain about recombinant selection and screening.
రికాంబినెంట్ ఎంపిక మరియు స్క్రీనింగ్ గురించి వివరించండి.
13. (a) Describe about Clustal W and phylogenetic tree construction.
క్లస్టల్ W మరియు ఫైలో జెనెటిక్ ట్రీ నిర్మాణం గూర్చి వర్ణించండి.
- Or
- (b) Explain about proteomics genomics and transcriptomics.
ప్రోటీయోమిక్స్, జీనోమిక్స్ మరియు ట్రాన్స్క్రిప్టోమిక్స్ గురించి వివరించండి.

3 MN 61102

THREE YEAR U.G. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Zoology (Minor)

Course 5 — ANIMAL DIVERSITY II BIOLOGY OF CHORDATES

(w.e.f. 2023 – 24)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

Each question carries 4 marks.

1. Urochordata
2. Anura
3. Anadromous Migration in fishes
4. Dipnoi Fishes
5. Cutaneous Respiration
6. Chelonia
7. Air sacs
8. Structure of Quil Feather
9. Prototheria
10. Structure of Tooth.

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

Each question carries 10 marks.

11. Write an essay on General Characters of Chordata.

Or

12. Explain the Retrogressive metamorphosis in Herdmania.

13. Describe the Respiratory system in Scoliodon.

Or

14. Explain the structure and function of Brain in Scoliodon.

15. Write an essay on Structure of Heart in Frog.

Or

16. Explain the identification of Poisonous snakes.

17. Write an essay on Migration in Birds.

Or

18. Describe the Respiratory system in Pigeon.

19. Explain the General characters of Mammals.

Or

20. Write an essay on dentition in Mammals.

3 MJ 61208

THREE YEAR B.Sc. (CBCS) (Honours) DEGREE EXAMINATION
NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Zoology (Major)

Course 8 : EVOLUTION AND ZOOGEOGRAPHY

(w.e.f. Academic year 2023-24)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. Theory of abiogenesis
2. Coacervates
3. Homologous organs
4. Connecting links
5. Germ Plasma theory
6. Industrial melanism
7. Hardy Weinberg equilibrium
8. Sewall Wright effect
9. Types of animal distribution
10. Ethiopian region

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Give an account of evolution modes of nutrition.
Or
12. Explain Miller and Urey experiment with the help of the diagram.
13. Write an essay on embryological evidences of evolution.
Or
14. Describe the paleontological evidences in support of evolution

15. Define Neo Lamarckism and its role in evolutionary theory.

Or

16. Write an essay on Modern Synthetic theory of evolution.

17. Describe various isolating mechanisms and agents.

Or

18. Write an essay on mutations.

19. Write an essay on zoogeographical barriers and discuss their effect on distribution of animals.

Or

20. Describe the main features of Australian region.

3 MJ 60208

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024

THIRD SEMESTER

Biotechnology

METABOLISM

(Major)

(w.e.f. 2023-2024)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. Define anabolism.
2. Light and dark reactions in photosynthesis.
3. Glycolysis.
4. Denovo synthesis of fatty acids.
5. Urea cycle.
6. Differentiate between holoenzyme and apoenzyme.
7. Describe the lock and key model of enzyme-substrate interaction.
8. Inborn errors of aromatic amino acid metabolism.
9. Cholesterol biosynthesis.
10. Diabetes mellitus.

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. (a) Describe the C₃ cycle in photosynthesis.
Or
(b) Explain the TCA cycle and its regulation.
12. (a) Discuss the biosynthesis and degradation of triacylglycerol (TAG).
Or
(b) Describe the process of ketogenesis and its significance in lipid metabolism.

13. (a) Explain the processes of deamination, decarboxylation and transamination in amino acid metabolism.

Or

- (b) Discuss the inborn errors of aromatic and branched-chain amino acid metabolism.

14. (a) Explain the classification and nomenclature of enzymes.

Or

- (b) Describe enzyme specificity and the induced fit model.

15. (a) Derive the Michaelis-Menten equation and explain its importance in enzyme kinetics.

Or

- (b) Discuss competitive and uncompetitive enzyme inhibition.
-

3 MN 50102

THREE YEAR U.G. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Taxation (Minor)

ASSESSMENT OF INDIVIDUAL, HUF AND FIRMS

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

Each question carries 5 marks.

1. Define the concept of Income under the Income Tax Act.
2. Explain the difference between gross total income and net taxable income for an individual.
3. Briefly describe the residential status of an individual and its impact on taxation.
4. Outline the process of income assessment for an individual.
5. What are the criteria for determining the taxability of gifts received by an individual?
6. Define a Hindu Undivided Family (HUF) and explain its basic structure.
7. Discuss the role of a Karta in a Hindu Undivided Family.
8. Explain the tax implications of forming an Association Of Persons (AOP).
9. Differentiate between Trusts and Societies for taxation purposes.
10. Briefly describe the TDS (Tax Deducted at Source) and TCS (Tax Collected at Source) provisions under Indian tax law.

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

Each question carries 10 marks.

11. Explain the concept of clubbing of income and list situations where it is applicable for individuals.
- Or
12. Discuss deductions under Section 80C to 80U available to individual taxpayers.

13. Describe the taxability of income generated by the HUF and its members.

Or

14. What are the steps involved in the formation and assessment of an HUF?

15. Describe the criteria for tax exemption of charitable trusts in India.

Or

16. Explain the tax treatment of income for Associations of Persons (AOP) and Bodies of Individuals (BOI).

17. Outline the process of assessing the income of a partnership firm and the partners involved.

Or

18. What are the tax deductions and benefits available to a partnership firm under the Income Tax Act?

19. Explain the various sections under TDS applicable to income sources like salary, rent, and interest.

Or

20. Discuss the procedures and implications of TCS for business transactions.

3 MJ 61206

THREE YEAR B.Sc. (Honours) DEGREE EXAMINATION NOVEMBER/DECEMBER 2024

THIRD SEMESTER

Zoology

Course 6 — PRINCIPLES OF GENETICS

(w.e.f. academic year 2023-24)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following.

1. Test cross
2. Law of dominance
3. Incomplete linkage
4. Incomplete dominance
5. Kappa particles
6. Polygenes
7. Environmental influence on sex determination
8. Genic balance theory
9. Human karyotyping
10. Autosomal dominant disorder

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Add a detailed note on pure lines and inbred lines.

Or

12. Discuss Mendelian Principles of dihybrid cross.

13. Write an essay on gene interactions.

Or

14. Describe the mechanism of crossing over.

15. Write an essay on blood group inheritance.

Or

16. Describe extra chromosomal inheritance with examples.

17. Add a detailed note on X linked inheritance.

Or

18. Write an essay on sex determination in humans and Drosophila.

19. Write an essay on pedigree analysis.

Or

20. Discuss the basics of proteomics.

3 MJ 61207

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024

THIRD SEMESTER

Zoology (Major)

ANIMAL BIOTECHNOLOGY

(w.e.f. 2023-24)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. pBR Vector.
2. Nomenclature of restriction enzymes.
3. Microinjection.
4. PCR.
5. Southern blotting technique and its significance.
6. Artificial insemination.
7. Stem cells.
8. Gene therapy and its applications
9. Monoculture in fishery biotechnology.
10. Secondary cell culture.

SECTION B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. (a) Describe the DNA modifying enzymes DNA polymerases, kinases, and phosphatases and their applications.

Or

- (b) Explain the structure and function of bacteriophage lambda-based cloning vectors.

12. (a) Discuss the process of electroporation and its use in gene delivery.

Or

(b) Explain Sanger's method of DNA sequencing, comparing traditional and automated techniques.

13. (a) Describe the process of cryopreservation in cell cultures and its significance.

Or

(b) Explain the production of monoclonal antibodies using hybridoma technology.

14. (a) Discuss the techniques of super ovulation and embryo transfer in animals.

Or

(b) Explain the methods used to create transgenic fish and their applications.

15. (a) Outline the process of DNA fingerprinting and its uses in biotechnology.

Or

(b) Define bioinformatics and describe the different types of databases used in the field.

RS 36163

THREE YEAR B.Sc.(CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Zoology

Paper III – CYTOLOGY, GENETICS AND EVOLUTION

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

(Draw labelled diagrams wherever necessary)

ఏవేని ఐదు ప్రశ్నలకు సమాధానము వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

అవసరమైన చోట భాగాలతో కూడిన పటములను గీయుము.

1. Prokaryotic cell.

కేంద్రక పూర్వ కణం.

2. Virus.

వైరస్.

3. Mitochondria.

మైటోకాండ్రీయా.

4. Ribosomes.

రైబోజోములు.

5. Pleiotropy.

ప్లియోట్రోఫి.

6. Dominance.

బహిర్గతత్వం.

7. Sex linked inheritance.

లింగ సహలగ్న అనువంశికత.

8. Linkage.

సహలగ్నత.

9. Variations.

వైవిధ్యాలు.

10. Natural selection.

ప్రకృతి వరణం.

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

Draw diagrams wherever necessary.

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

అవసరమైన చోట భాగాలతో కూడిన పటములు గీయుము.

11. Describe the electron microscopic structure of eukaryotic cell.

నిజకేంద్రక కణం యొక్క సూక్ష్మ నిర్మాణంను వివరించండి.

Or

12. Write about the functions of plasma membrane.

ప్లాస్మాత్వచం యొక్క విధులను గురించి వ్రాయుము.

13. Explain the structure and functions of chromosomes.

క్రోమోజోముల నిర్మాణం మరియు విధులను వివరించుము.

Or

14. Write about the structure and functions of lysosomes.

లైసోజోముల నిర్మాణం మరియు విధులను గురించి వ్రాయుము.

15. Describe the law of independent assortment with suitable examples.

స్వతంత్ర వ్యూహన సిద్ధాంతమును ఉదాహరణలతో వివరించండి.

Or

16. Write an essay on epistasis.

ఎపిస్టాసిస్పై ఒక వ్యాసము వ్రాయుము.

17. Give an account of sex determination.

లింగ నిర్ధారణను వృత్తాంతపరచుము.

Or

18. Explain about the extra chromosomal inheritance.

జీవ వదార్థ అనువంశితను గురించి వివరింపుము.

19. Write about Hardy Weinberg equilibrium.

హార్డి వీన్బర్గ్ సమతుల్యతను గురించి వ్రాయుము.

Or

20. Describe the macro evolutionary principles.

స్థూల పరిణామ సూత్రాలను వివరించండి.

2 RS 36163

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Zoology

Paper III – CELL BIOLOGY, GENETICS, MOLECULAR BIOLOGY AND EVOLUTION

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE of the following.

Each question carries 5 marks.

Draw labelled diagrams wherever necessary.

ఏవైనా ఐదు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

అవసరమైనచోట భాగాలతో కూడిన పటములను గీయుము.

1. Plasma membrane.

ప్లాస్మాత్వచం.

2. Endoplasmic reticulum.

అంతర్జీవ ద్రవ్యజాలకం.

3. Incomplete dominance.

అసంపూర్ణ బహిర్గతత్వం.

4. Sex determination.

లింగ నిర్ధారణ.

5. Mutations.

ఉత్పరివర్తనాలు.

6. DNA replication.

డిఎన్ఎ ప్రతికృతి.

7. Origin of life.
జీవుల పుట్టుక.
8. Natural selection.
వకృతివరణం.

SECTION B — (5 × 10 = 50 marks)

Answer FIVE of the following questions.

Each question carries 10 marks.

Draw labelled diagrams wherever necessary

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

అవసరమైనచోట భాగాలతో కూడిన పటములను గీయుము.

9. (a) Describe the electron microscopic structure of animal cell.
జంతు కణం యొక్క సూక్ష్మ నిర్మాణాన్ని వివరించండి.
- Or
- (b) Explain the structure and functions of chromosome.
క్రోమోజోముల నిర్మాణం మరియు విధులను వివరించుము.
10. (a) Write about the Law of Independent assortment with suitable examples.
స్వతంత్ర వ్యూహన సిద్ధాంతమును ఉదాహరణలతో వ్రాయుము.
- Or
- (b) Give an account of blood group inheritance.
రక్త వర్గాల అనువంశికతను వృత్తాంతవరచుము.
11. (a) Explain about the chromosomal disorders in human.
మానవులలో క్రోమోజోమల్ వైచిత్ర్యాలను గురించి వివరించుము.
- Or
- (b) Describe the human karyotype and its significance.
మానవ కారియోటైపింగ్ మరియు వాటి యొక్క విశిష్టతను వివరించండి.

12. (a) Write an essay on central dogma theory of molecular biology.
వరమాణు జీవశాస్త్రం యొక్క కేంద్ర (సెంట్రల్ డోగ్మా) సిద్ధాంతం గురించి వ్రాయుము.

Or

- (b) Discuss about the Lac Operon concept.
లాక్ ఒపెరాన్ భావన గురించి చర్చించుము.

13. (a) Write a detailed account of speciation.
జాతుల ఉత్పత్తి గురించి వివరంగా వ్రాయుము.

Or

- (b) Explain the various theories of evolution.
వివిధ పరిణామ సిద్ధాంతాలను వివరించుము.

3 MJ 60206

THREE YEAR B.Sc. (HONOURS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Zoology

Course 6 : MOLECULAR BIOLOGY

(W.E.F. Academic Year 2023-24)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following.

1. Prokaryotic genome.
2. Concept of genetic material.
3. Primase.
4. Helicases.
5. Sigma factor.
6. Promoter.
7. Wobble hypothesis.
8. tRNA.
9. trp operon.
10. Clustered genes

SECTION B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Describe the experiments that prove DNA as genetic material.
Or
12. Add a detailed note on Watson and Crick model of DNA.
13. Describe the enzymology of replication.
Or
14. Discuss the proofs of semiconservative replication.

15. Describe the four steps of transcription.

Or

16. Describe the enzymatic synthesis of RNA.

17. Describe codon-anticodon interaction.

Or

18. Discuss adaptor hypothesis.

19. Write an essay on regulation of gene expression.

Or

20. Write an essay on control of gene expression.

3 MJ 61205

THREE YEAR B.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Zoology

Course 5 – ANIMAL DIVERSITY – II BIOLOGY OF CHORDATES

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. Cephalochordata
2. Catadromus Migration in fishes .
3. Dipnoi Fishes
4. Anura
5. Pulmonary respiration in Frog
6. Crocodelia
7. Structure of Quill Feather
8. Air sacs
9. Metatheria
10. Structure of Tooth

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Write an essay on differences between Petromyzon and Myxine.
Or
12. Explain the Retrogressive metamorphosis in Herdmania.
13. Explain the General characters and classification of Fishes.
Or
14. Explain the structure and function of Heart in Scoliodon.
15. Write an essay on Structure and function of Brain in Frog.
Or
16. Explain the identification of Poisonous snakes.

17. Write an essay on flight Adaptations in Birds.

Or

18. Describe the Respiratory system in Pigeon.

19. Describe the Aquatic Adaptations in Mammals.

Or

20. Write an essay on Dentition in Mammals.

3 MJ 60405

THREE YEAR B.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Chemistry

FUNDAMENTALS OF ORGANIC CHEMISTRY

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE questions.

Each question carries 4 marks.

1. Write types of Organic reagents with an suitable example.
2. Discuss Acidic nature of Phenol with mesomeric effect.
3. Write any two preparation methods of cyclo alkanes.
4. Write short notes on :
 - (a) Corey-House Synthesis
 - (b) Wurtz reaction
5. Write short notes on Markonikoff rule.
6. Give an account of Acidic nature of terminal alkynes.
7. Write the mechanism for Halogenation of Benzene.
8. Write the mechanism for Nitration of Benzene.
9. Discuss effect of ortho directing groups on electrophilic substitution of Benzene.
10. Discuss effect of para directing groups on electrophilic substitution of Benzene.

PART B — (5 × 10 = 50 marks)

Answer ALL the questions.

Each question carries 10 marks.

11. What is Inductive effect? Write any two application of Inductive effect.

Or

12. Explain Hyper conjugation and its application to stability of Carbonium ions.

13. Explain Baeyer's Strain Theory.

Or

14. Write conformational isomers and energy diagrams of Propane and n-butane.

15. Explain reactions of Alkenes with (a) Bromine water (b) Alkaline KMnO_4 .

Or

16. Explain 1,2- and 1,4-addition reactions in 1,3-Butadiene.

17. Write Friedel Craft Alkylation and Friedel Craft Acylation Reaction.

Or

18. Discuss the structure of Benzene with Molecular Orbital Diagram.

19. Explain Ring activating group and deactivating groups with an example.

Or

20. What is Huckels rule? Write applications to Benzenoid and Non-Benzenoid compounds.

3 MJ 60406

THREE YEAR B.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Chemistry

Course 6 : ORGANIC CHEMISTRY

(HALOGEN AND OXYGEN ORGANIC COMPOUNDS)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE questions.

Each question carries 4 marks.

1. Write about reactivity of Allyl, Vinyl and Aryl halides in Nucleophilic Substitution reactions?
2. Explain the following reactions :
 - (a) Williamson synthesis
 - (b) Sandmeyer reaction.
3. Write the following oxidation reactions of alcohols :
 - (a) PDC
 - (b) HIO_4 .
4. How to prepare 1°, 2°, 3° alcohols from Grignard Reagent?
5. Write Keto-Enol Tautomerism.
6. Explain the reaction mechanism of Benzoin condensation.
7. Explain Alkaline hydrolysis of Ester.
8. Write any two preparation methods for carboxylic acids.
9. Write Haworth structure of lactose and sucrose.
10. Write a short note on Osazone test for Glucose and Fructose.

SECTION B — (5 × 10 = 50 marks)

Answer ALL the questions.

Each question carries 10 marks.

11. Explain SN_1 and SN_2 Mechanisms with Energy profile diagram.
Or
12. Explain the following :
 - (a) Benzyne Mechanism
 - (b) SN_i Mechanism.

13. Write two preparations of alcohols and explain its chemical reactions of substitution by OH group in alcohols.

Or

14. Write about the mechanism of following reactions :

- (a) Riemer-Tiemann Reaction
- (b) Pinacol-Pinacolone Reaction.

15. Write two preparations of carbonyl compounds and explain the following chemical reactions of carbonyl compounds :

- (a) HCN
- (b) 2, 4 DNP
- (c) NaSHO₃.

Or

16. Explain the mechanism of following reactions of carbonyl compounds :

- (a) Aldol condensation
- (b) Cannizzaro Reaction.

17. Explain the following special properties of carboxylic acids :

- (a) Schimdt Reaction
- (b) Ardt-Eistert synthesis
- (c) HVZ reaction
- (d) Huns-Diecker reaction.

Or

18. Write preparation of Aceto Acetic Ester and explain its applications of mono carboxylic acid, di carboxylic acid and α, β - unsaturated carboxylic acids.

19. What is Carbohydrates? Write the classifications of Carbohydrates.

Or

20. Explain Ruff's degradation and Killiani Fischer synthesis.

3 MJ 60407

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Chemistry (Major)

PHYSICAL CHEMISTRY – 1

(Solution and Electro Chemistry)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE questions.

Each question carries 4 marks.

1. State and explain Henry Law.
2. Write a short note on Azeotropes.
3. Give the importance of Van't Hoff factor.
4. Write a note on Relative lowering of Vapour pressure.
5. Differentiate thermal and photochemical reactions.
6. What is Photosensitization? Explain.
7. Write about the effect of dilution on conductance.
8. How do you determine the end-point in conductometric titration between a weak acid and a strong base.
9. Write the types of electrodes with example.
10. Write a note on Gas electrode.

PART B — (5 × 10 = 50 marks)

Answer ALL the questions.

Each question carries 10 marks.

11. What is Nernst distribution law? Write its applications.

Or

12. How do you determine the critical solution temperature of Nicotine-water system.

13. Explain the experimental set up of Rast method in determining the molecular mass of a solute.

Or

14. Describe Berkley-Haetleys method for determining the osmotic pressure of a solution.

15. What is quantum yield? Explain the reasons for abnormal quantum yield.

Or

16. Give a detailed note on

(a) Fluorescence

(b) Phosphorescence.

17. What is Kohlrausch law? Write its applications.

Or

18. Explain Debye-Huckel-Onsagars equation for strong electrolytes.

19. Write about the following

(a) Inert electrode

(b) EMF measurement.

Or

20. Write about the following

(a) Nernst equation

(b) Single electrode potential.

3MJ 60408

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER 2024

THIRD SEMESTER

Chemistry

INORGANIC AND PHYSICAL CHEMISTRY

(Major)

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE questions.

Each question carries 4 marks.

1. Write postulates of the valence bond theory of complex compounds.
2. Explain Crystal field splitting in Octahedral field.
3. Explain Substitution reactions in square planar complexes.
4. Chelate effect.
5. Write a note on 18-electron rule.
6. Discuss π - acceptor behaviour of CO.
7. Explain Joule - Thomson effect.
8. Prove $C_p - C_v = R$.
9. Write different statements of the second law.
10. Explain third law of thermodynamics.

PART B — (5 × 10 = 50 marks)

Answer ALL the questions.

Each question carries 10 marks

11. Explain Structural isomerism in complexes.
Or
12. Explain Crystal field splitting in Square planar and Tetrahedral fields.
13. What is Trans effect? Explain theories of trans effect.
Or
14. Explain SN_1 and SN_2 reaction in Octahedral complexes.

15. Write definition and classification of OMC on the basis of bond type.

Or

16. Write general methods of preparation of mono and binuclear carbonyls of 3d series.

17. Explain the following

(a) Internal energy

(b) Enthalpy(H)

Or

18. Derive the Kirchoff's equation.

19. Write about Carnot cycle and its efficiency.

Or

20. Write the Helmholtz and Gibbs equation and Criteria for spontaneity.



GOVERNMENT COLLEGE, RAYACHOTY

Affiliated to Yogi Vemana University

Rayachoty - 516249



QUESTION PAPERS

III – SEMESTER

B.A

B.COM

B.COM (CA)

NOVEMBER-DECEMBER-2024

3 MJ 10706

THREE YEAR B.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Special Urdu (Major Urdu)

Paper VI : URDU MEIN INSHAIYA NIGARI

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION - A

(5 × 5 = 25)

1. مندرجہ ذیل سوالات میں سے کوئی پانچ (5) کے جوابات لکھئے۔

نوٹ: ہر سوال کے پانچ (5) نشانات مقرر ہیں۔

1. رشید احمد صدیقی کا مختصر تعارف لکھئے۔

2. خواجہ حسن نظامی کا تعارف مختصر لکھئے۔

3. اردو میں انشائیہ کی ابتداء کب ہوئی مختصر نوٹ لکھئے۔

4. انشائیہ نگاری کی خصوصیات واضح کیجئے۔

5. انشائیہ کے بارے میں اپنی معلومات مختصر لکھئے۔

6. پطرس بخاری کا انشائیہ ”کتے“ کا مقصد مختصر لکھئے۔

7. رشید احمد صدیقی کی انشائیہ نگاری کی چند اہم خصوصیات لکھئے۔

8. خواجہ حسن نظامی کا انشائیہ ”دیاسلائی“ پر مختصر روشنی ڈالئے۔

9. انشائیہ نگاری کی خصوصیات واضح کیجئے۔

10. پطرس بخاری کی انشائیہ نگاری پر مختصر روشنی ڈالئے۔

SECTION - B

(5 × 10 = 50)

11. مندرجہ ذیل تمام سوالات کے جوابات مطلوب ہیں۔

11. (a) اردو میں انشائیہ نگاری کی روایت کا تفصیل سے جائزہ لیجئے۔

یا

(b) اردو ادب کے چند اہم انشائیہ نگاروں کے بارے میں اپنی معلومات تحریر کیجئے۔

12. (a) فن انشائیہ نگاری کا تفصیل سے جائزہ پیش کیجئے۔

یا

(b) انشائیہ اور مضمون میں کیا فرق ہے؟ وضاحت کیجئے۔

13. (a) مضمون ”کتے“ کا تنقیدی جائزہ پیش کیجئے۔

یا

(b) پطرس بخاری کی انشائیہ نگاری کے فنی محاسن کا جائزہ لیجئے۔

14. (a) ”چارپائی“ کا تنقیدی جائزہ لیجئے۔

یا

(b) رشید احمد صدیقی کے ادبی خدمات کا جائزہ لیجئے۔

15. (a) انشائیہ ”دیاسلانی“ کا تنقیدی جائزہ پیش کیجئے۔

یا

(b) خواجہ حسن نظامی کے حالات زندگی اور ادبی خدمات کا جائزہ لیجئے۔

3 MJ 10707

THREE YEAR B.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Special Urdu (Major Urdu)

Paper VII : GALIB KA KHUSSUSI MUTALA

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION - A

(5 × 5 = 25)

I. مندرجہ ذیل سوالات میں سے کوئی پانچ (5) کے جوابات لکھئے۔

نوٹ: ہر سوال کے پانچ (5) نشانات مقرر ہیں۔

1. مرزا غالب کا تعارف مختصر پیش کیجئے۔

2. غالب کی غزل گوئی کے کوئی دو خصوصیات لکھئے۔

3. غالب کی غزل سے کوئی دو اشعار تحریر کیجئے۔

4. غالب کی مکتوب نگاری کے کوئی دو اہم خصوصیات لکھئے۔

5. غالب کی قصیدہ گوئی پر مختصر نوٹ لکھئے۔

6. غالب کی حالات زندگی پر روشنی ڈالئے۔

7. غالب کی مکتوب نگاری کے کوئی دو اہم خصوصیات لکھئے۔

8. ”درد منت کش دوانہ ہوا میں نہ اچھا ہوا برانہ ہوا“

اس شعر کی تشریح کیجئے۔

9. غالب کی قصیدہ گوئی پر مختصر نوٹ لکھئے۔

10. غالب کی نثری خصوصیات پر مختصر روشنی ڈالئے۔

SECTION - B

(5 × 10 = 50)

11. مندرجہ ذیل تمام سوالات کے جوابات مطلوب ہیں۔

11. (a) غالب کی شاعرانہ عظمت کا تفصیل سے جائزہ لیجئے۔

یا

(b) غالب کی غزل گوئی کی خصوصیات کا تفصیل سے جائزہ لیجئے۔

12. (a) غالب کی غزل ”آہ کو چاہئے ایک عمر اثر ہونے تک“ کے تمام اشعار کی تشریح لکھئے۔

یا

(b) غالب کی غزل ”سب کہاں کچھ لالہ و گل میں نمایاں ہو گئیں“ کے تمام اشعار کی

تشریح لکھئے۔

13. (a) مرزا غالب کی حالات زندگی کو تفصیل سے بیان کرتے ہوئے ان کی ادبی خدمات کا

جائزہ لیجئے۔

یا

(b) غالب کی شخصیت کے بارے میں تفصیل سے بیان کیجئے۔

14. (a) اردو کے دو اہم مکتوب نگار کے بارے میں لکھئے۔

یا

(b) غالب کی مکتوب نگاری کا تفصیل سے جائزہ پیش کیجئے۔

15. (a) غالب کی قصیدہ گوئی کا تفصیل سے جائزہ پیش کیجئے۔

یا

(b) قصیدہ کی تعریف کرتے ہوئے اس کے اجزائے ترکیبی کو تفصیل سے لکھئے۔

3 MJ 10708

THREE YEAR B.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Special Urdu (Major Urdu)

Paper VIII : MOULANA ABUL KALAM AZAD KA KHUSSUSI MUTALA

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION - A

(5 × 5 = 25)

I. مندرجہ ذیل سوالات میں سے کوئی پانچ (5) کے جوابات لکھئے۔

نوٹ: ہر سوال کے پانچ (5) نشانات مقرر ہیں۔

1. مولانا آزاد کی تصانیف کے نام لکھئے۔

2. مولانا آزاد کا مختصر تعارف لکھئے۔

3. مولانا آزاد کے دور سائل ”الہلال و البلاغ“ کا مختصر تعارف لکھئے۔

4. مولانا آزاد کی سیاسی زندگی پر مختصر نوٹ لکھئے۔

5. مولانا آزاد کی تصانیف کے نام لکھئے۔

6. مولانا آزاد کا رسالہ ”المصباح“ کے متعلق مختصر لکھئے۔

7. مولانا آزاد کا نگرلیس پارٹی کے صدر کی حیثیت سے کیا خدمات انجام دئے ہیں تحریر کیجئے۔

8. مولانا آزاد وزیر تعلیم کی حیثیت سے کیا خدمات انجام دئے مختصر نوٹ لکھئے۔

9. مولانا آزاد کے بچپن کے کوئی دو اہم واقعات کا مختصر بیان لکھئے۔

10. مولانا آزاد کے خطوط کے کتنے مجموعے ہیں؟ نام بتائیے۔

SECTION - B

(5 × 10 = 50)

II. مندرجہ ذیل تمام سوالات کے جوابات مطلوب ہیں۔

11. (a) اردو میں انشائیہ نگاری کی روایت کا تفصیل سے جائزہ لیجئے۔

یا

(b) انشائیہ اور مضمون میں کیا فرق ہے وضاحت کیجئے۔

12. (a) مضمون ”کتے“ کا تنقیدی جائزہ پیش کیجئے۔

یا

(b) پطرس بخاری کی انشائیہ نگاری کے فنی محاسن کا جائزہ لیجئے۔

13. (a) انشائیہ ”دیاسلانی“ کا تنقیدی جائزہ پیش کیجئے۔

یا

(b) خواجہ حسن نظامی کے حالات زندگی اور ادبی خدمات کا جائزہ لیجئے۔

14. (a) ”چارپائی“ کا تنقیدی جائزہ لیجئے۔

یا

(b) رشید احمد صدیقی کے ادبی خدمات کا جائزہ لیجئے۔

15. (a) فن انشائیہ نگاری کا تفصیل سے جائزہ پیش کیجئے۔

یا

(b) اردو ادب میں انشائیہ نگاری کی اہمیت و مقبولیت کی وضاحت کیجئے۔

THREE YEAR B.A./B.Com./B.Sc./B.B.A. DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Part - I (B) – Another Language – Urdu

Paper III – URDU PROSE FICTION

(w.e.f. 2020-21 Admitted Batch)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A – (5 × 5 = 25 marks)

- ذیل میں سے کوئی پانچ (5) سوالوں کے جواب مطلوب ہیں۔
1. داستان اور ناول کی تعریف کیجئے۔
 2. افسانہ کی تعریف کرتے ہوئے اس کے اجزائے ترکیبی لکھئے۔
 3. نصاب میں شامل ”باغ و بہار“ کا قصہ اپنے الفاظ میں لکھئے۔
 4. ڈپٹی نذیر احمد کا تعارف کرائئے۔
 5. ڈرامہ کی تعریف کرتے ہوئے اس کے اہم عناصر پر روشنی ڈالئے۔
 6. افسانہ ”ایک اور دن“ کا قصہ اپنے الفاظ میں لکھئے۔
 7. ڈرامہ ”گوڑ کی نکھیاں“ کا مرکزی خیال کیا ہے؟
 8. افسانہ نگار عبدالصمد کا مختصر تعارف پیش کیجئے۔

(5 × 10 = 50)

مندرجہ ذیل سوالوں کے جواب مطلوب ہیں:

9. اردو میں داستان گوئی کی روایت پر مضمون لکھئے۔

یا

10. داستان ناول اور افسانہ کے مابین فرق کو واضح کیجئے۔

11. میرامن کی داستان نویسی کی اہم خصوصیات پر روشنی ڈالئے۔

یا

12. ”باغ و بہار“ کی مقبولیت کے اسباب قلم بند کیجئے۔

13. ڈرامہ ”گوڑ کی مکھیاں“ کا قصہ اپنے الفاظ میں بیان کیجئے۔

یا

14. ”کلیم کا مرزا ظاہر دار بیگ کے یہاں مہمان جانا“ کا واقعہ اپنے الفاظ میں بیان کیجئے۔

15. ڈپٹی نذیر احمد کی ناول نگاری کا جائزہ لیجئے۔

یا

16. ڈرامہ ”گوڑ کی مکھیاں“ کے حوالے سے ڈاکٹر کریم رومانی کیا ڈرامہ نگاری پر روشنی ڈالئے۔

17. افسانہ ”ایک اور دن“ کی فکری اور فنی خوبیوں کا جائزہ لیجئے۔

یا

18. بحیثیت افسانہ نگاری عبدالصمد کا تفصیلی تعارف پیش کیجئے۔

3 MJ 10705

THREE YEAR B.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Special Urdu (Major)

Paper V : URDU MEIN TANQEED

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION - A

(5 × 5 = 25)

I. مندرجہ ذیل سوالات میں سے کوئی پانچ (5) کے جوابات لکھئے۔

نوٹ: ہر سوال کے پانچ (5) نشانات مقرر ہیں۔

1. تذکرہ کسے کہتے ہیں؟ مختصر تعریف کیجئے۔

2. نقاد کے فرائض کیا ہیں؟ مختصر نوٹ لکھئے۔

3. حالی کے چند تصانیف کے نام لکھئے۔

4. احتشام حسین کے تنقیدی نظریہ پر مختصر نوٹ لکھئے۔

5. ترقی پسند تنقید کسے کہتے ہیں؟ مختصر لکھئے۔

6. کلیم الدین احمد کی تنقید نگاری پر مختصر نوٹ لکھئے۔

7. ایک ناقد کی حیثیت سے الطاف حسین حالی کا تعارف پیش کیجئے۔

8. ادب میں تنقید کی اہمیت کو واضح کیجئے۔

9. اردو کے چند اہم تذکروں کے نام لکھئے۔

10. سائنٹفک تنقید سے کیا مراد ہے؟ مختصر نوٹ لکھئے۔

SECTION - B

(5 × 10 = 50)

11. مندرجہ ذیل تمام سوالات کے جوابات مطلوب ہیں۔

11. (a) اردو تنقید میں ”مقدمہ شعر و شاعری“ کی مسلمہ اہمیت کو واضح کیجئے۔

یا

(b) حالی نے عمدہ شاعری کے لئے کیا اصول بنائے ہیں تفصیل سے لکھئے۔

12. (a) آل احمد سرور کی تنقید نگاری کی خصوصیات واضح کیجئے۔

یا

(b) فراق گورکھ پوری کی ناقدانہ بصیرت کا احاطہ کیجئے۔

13. (a) تنقید کے مختلف دبستانوں کا تفصیل سے جائزہ لیجئے۔

یا

(b) ترقی پسند تنقید کے ارتقاء میں کسی دو اہم ناقدین کی خدمات کا جائزہ لیجئے۔

14. (a) اردو میں تذکرہ نویسی کا آغاز و ارتقاء کا جائزہ لیجئے۔

یا

(b) اردو تنقید کی نشوونما میں تذکروں کی اہمیت کو واضح کیجئے۔

15. (a) تنقید کا آغاز و ارتقاء کے بارے میں اپنی معلومات قلمبند کیجئے۔

یا

(b) ادبی تنقید میں نقاد کے فرائض کیا ہیں؟ تفصیل سے لکھئے۔

3 MN 10302

THREE YEAR B.A. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Political Science (Minor)

INDIAN CONSTITUTION

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE of the following.

Each question carries 5 marks.

1. Constitutionalism.
2. Flexible Constitution.
3. Cripps Mission.
4. Communal Award.
5. Drafting Committee of the Constitution.
6. Secularism.
7. Abolition of Un-touchability.
8. Right to life (Art. 21).
9. Judicial Review.
10. The abolition of the privy purse.

PART B — (5 × 10 = 50 marks)

Answer FIVE of the following.

Each question carries 10 marks.

11. (a) Write an essay on definitions and Nature of the Constitution.
Or
(b) Elaborate the differences between written and unwritten Constitutions.
12. (a) Examine the historical development of Indian Constitution.
Or
(b) Explain the basic provisions of Government of India Act, 1919.

13. (a) Examine the nature and composition of Constituent Assembly of India critically.

Or

(b) Explain the philosophical foundations of Indian Constitution.

14. (a) Write an essay on six (6) types of freedoms (Art.19) of the Indian Constitution in detailed.

Or

(b) Analyze the differences between fundamental rights and directive principles of state policy.

15. (a) Examine Supreme Court Judgment on Keshavanand Bharathi Case, 1973.

Or

(b) Explain the concept of judicial review of Supreme Court of India.

LSC 309

THREE YEAR B.A./B.Sc./B.Com./B.B.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Part III — Life Skill Course

ANALYTICAL SKILLS

(w.e.f 2020–21 Admitted batch)

Time : Two hours

Maximum : 50 marks

(No additional sheet will be supplied)

Answer any FIFTY questions.

Each question carries 1 mark.

(50 × 1 = 50 marks)

ఏవైనా యాభై ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 1 మార్కు.

1. Simplify $2.45 \times 2.45 - 0.9 \times 2.45 + 0.45 \times 0.45$ []
 $2.45 \times 2.45 - 0.9 \times 2.45 + 0.45 \times 0.45$ సూక్ష్మీకరించండి.
(a) 0 (b) 1 (c) 2 (d) 3
2. The value of $\left(2 - \frac{1}{3}\right)\left(2 - \frac{3}{5}\right)\left(2 - \frac{5}{7}\right) \dots \left(2 - \frac{999}{1001}\right)$ []
 $\left(2 - \frac{1}{3}\right)\left(2 - \frac{3}{5}\right)\left(2 - \frac{5}{7}\right) \dots \left(2 - \frac{999}{1001}\right)$ విలువ ఎంత?
(a) $\frac{1003}{3}$ (b) $\frac{1003}{1001}$ (c) $\frac{1}{1001}$ (d) None of the above
(ఏదీ కాదు)
3. Which is greater $\frac{6}{13}$ or $\frac{5}{7}$? []
 $\frac{6}{13}$ లేదా $\frac{5}{7}$ వాటిలో అతిపెద్ద భిన్నం ఏది?
(a) $\frac{6}{13}$ (b) $\frac{5}{7}$ (c) $\frac{5}{65}$ (d) None of these
(ఏదీ కాదు)
4. What decimal of an hour is a second? []
ఒక గంట యొక్క దశాంశం సెకను ఎంత?
(a) 0.0025 (b) 0.0256 (c) 0.00027 (d) 0.000126

5. Which of the following numbers divisible by 4? []
 క్రింది వాటిలో 4 తో భాగించబడే సంఖ్య ఏది?
- (a) 618703572 (b) 67920594 (c) 5967013 (d) None of these
 (ఏదీ కాదు)
6. The sum of all the even number from 100 to 200 []
 100 నుండి 200 వరకు ఉన్న అన్ని సరి సంఖ్యల మొత్తం ఎంత?
- (a) 8660 (b) 7650 (c) 9440 (d) 6880
7. What is the HCF of 27, 18 and 36? []
 27, 18 మరియు 36 ల గ.సా.భా ఎంత?
- (a) 7 (b) 11 (c) 9 (d) None of these
 (ఏదీ కాదు)
8. Find the LCM of $\frac{2}{5}$, $\frac{3}{10}$ and $\frac{6}{25}$. []
 $\frac{2}{5}$, $\frac{3}{10}$ మరియు $\frac{6}{25}$ క.సా.గు కనుక్కోండి.
- (a) $\frac{5}{6}$ (b) $\frac{6}{5}$ (c) $\frac{2}{5}$ (d) $\frac{5}{2}$
9. The HCF of two numbers is 12 and their difference is 12. The numbers are []
 రెండు సంఖ్యల HCF 12 మరియు వాటి వ్యత్యాసం 12. అయితే ఆ సంఖ్యలు?
- (a) 66, 78 (b) 70, 82 (c) 94, 106 (d) 84, 96
10. If the sum of two numbers is 204 and their HCF is 17 then find all possible pairs []
 రెండు సంఖ్యల మొత్తం 204 మరియు వాటి HCF 17 అయితే ఆ సంఖ్యలు కనుక్కోండి.
- (a) (17,187) & (85,119) (b) (16,178) & (85,120)
 (c) (17,197) & (88,119) (d) (18,187) & (85,119)
11. The difference between a number and its three-fifth is 50. What is the number? []
 ఒక సంఖ్య మరియు దాని మూడు-ఐదవ మధ్య వ్యత్యాసం 50. సంఖ్య అంటే ఏమిటి?
- (a) 75 (b) 100 (c) 125 (d) None of these
 (ఏదీ కాదు)
12. 12, 33, 66, 132, 363, ? []
- (a) 756 (b) 686 (c) 726 (d) 656

13. 11, 13, 17, 19, 23, 29, — []
 (a) 31 (b) 33 (c) 51 (d) None of these
 (ఏదీ కాదు)
14. If EODGH is the coded for BLADE, what is the code for CRICKET? []
 EODGH అనేది BLADE గా కోడ్ చేయబడింది, అప్పుడు మీరు CRICKET ని ఎలా కోడ్ చేస్తారు?
 (a) WHNFLUF (b) FULFNHW (c) DSJDLFU (d) ETKEMGV
15. If HARYANA is coded as 8197151, what is the code for DELHI? []
 HARYANA ని 8197151 గా కోడ్ చేస్తే, DELHI కి కోడ్ ఏమిటి?
 (a) 45389 (b) 46398 (c) 45985 (d) 45589
16. If PEN = 35, then PAGE = ? []
 PEN = 35, అయితే, PAGE = ?
 (a) 19 (b) 45 (c) 39 (d) 29
17. If S is the brother of N, the sister of N is M, the brother of P is J and the daughter of S is P then who is the uncle of J? []
 N యొక్క సోదరుడు S, N యొక్క సోదరి M, P యొక్క సోదరుడు J మరియు S యొక్క కుమార్తె P అయితే J యొక్క మామ ఎవరు?
 (a) J (b) S (c) N (d) M
18. If X is the brother of the son of Y's son then how is X related to Y? []
 Y యొక్క కొడుకుకు కొడుకు X తమ్ముడు అయిన X, Y కు ఏమవుతాడు?
 (a) Cousin (b) Son (c) Grand Son (d) Brother
 కజిన్ కొడుకు మనవడు తమ్ముడు
19. Find the angle between the minute hand and the hour hand of a clock when the time is 3.25. []
 సమయం 3.25 అయినప్పుడు గడియారం యొక్క రెండు ముల్లల మధ్య కోణాన్ని కనుగొనండి.
 (a) $47\frac{1}{2}^{\circ}$ (b) $41\frac{1}{2}^{\circ}$ (c) $46\frac{1}{2}^{\circ}$ (d) $45\frac{1}{2}^{\circ}$
20. How many times both hands are coincide in a day? []
 ఒక రోజులో గడియారంలోని ముల్లలు ఎన్ని సార్లు ఒకేలా ఉంటాయి?
 (a) 11 (b) 12 (c) 22 (d) 24
21. The calendar for the year 2021 will be the same as the year? []
 2021 సంవత్సరానికి సంబంధించిన క్యాలెండర్ సంవత్సరానికి సమానంగా ఉంటుందా?
 (a) 2027 (b) 2026 (c) 2025 (d) 2024

22. Find the number of odd days in 1887 year? []
 1887 సంవత్సరంలో బేసి రోజుల సంఖ్యను కనుగొనండి.
 (a) 5 (b) 6 (c) 7 (d) 8
23. Find the average of all prime numbers between 20 and 50. []
 20 మరియు 50 మధ్య అన్ని ప్రధాన సంఖ్యల సగటును కనుగొనండి.
 (a) 35.85 (b) 36.85 (c) 37.5 (d) 35.25
24. Find the mean proportional between 44 and 11 []
 44 మరియు 11 యొక్క సగటు అనుపాతం
 (a) 24 (b) 20 (c) 21 (d) 22
25. Two numbers are in the ratio of 4:5 and the difference between these numbers is 24. Find the two numbers []
 రెండు సంఖ్యలు 4:5 నిష్పత్తిలో ఉన్నాయి మరియు ఈ సంఖ్యల మధ్య వ్యత్యాసం 24 అయితే, ఆ రెండు సంఖ్యలు కనుగొనండి.
 (a) 96, 120 (b) 120, 96 (c) 86, 123 (d) 78, 96
26. If $0.75 : x :: 5 : 8$, then the value of x is? []
 $0.75 : x :: 5 : 8$, అయినచో, x విలువ ఎంత?
 (a) 1.12 (b) 1.20 (c) 1.25 (d) 1.30
27. Which ratio is least $14 : 17$ or $18 : 21$? []
 ఏ నిష్పత్తి కనీసం $14 : 17$ లేదా $18 : 21$?
 (a) $18 : 21$ (b) $14 : 17$ (c) $12 : 19$ (d) None of these
 (ఏదీ కాదు)
28. Sachin is younger than Rahul by 4 years. If their ages are in the respective ratio of 7 : 9 how old is Sachin? []
 రాహుల్ కంటే సచిన్ నాలుగేళ్ళు చిన్నవాడు. వారి వయస్సు 7 : 9 సంబంధిత నిష్పత్తిలో ఉంటే సచిన్ వయస్సు ఎంత?
 (a) 16 years (b) 18 years (c) 28 years (d) None of these
 16 సం॥లు 18 సం॥లు 28 సం॥లు (ఏదీ కాదు)
29. The ratio between the ages of Ram and Simran are 3 : 5 and the difference between their ages is 18 years. Then the age of Simran is _____ years. []
 రామ్ మరియు సిమ్రాన్ వయస్సుల మధ్య నిష్పత్తి 3 : 5 మరియు వారి వయస్సు మధ్య వ్యత్యాసం 18 సంవత్సరాలు. అప్పుడు సిమ్రాన్ వయస్సు _____ సంవత్సరాలు.
 (a) 27 (b) 30 (c) 40 (d) 45

30. A speed of a train is 90 kmph. What is the distance covered by it in 10 minutes? []
 రైలు వేగం గంటకు 90 కి.మీ. అయితే 10 నిమిషాల్లో అది ఎంత దూరం చేరింది.
 (a) 15 kmph (b) 12 kmph (c) 10 kmph (d) 5 kmph
31. A car is running at a speed of 108 kmph what distance will it cover in 15 seconds? []
 కారు 108 కి.మీ. వేగంతో 15 సెకన్లలో ఎంత దూరాన్ని చేరుకుంటుంది?
 (a) 45 meters (b) 55 meters
 45 మీటర్లు 55 మీటర్లు
 (c) 450 meters (d) cannot be determined
 450 మీటర్లు నిశ్చితబడలేదు
32. A bus moves at the speed of 80 km/hr. What is the speed of the bus in meters per second? []
 ఒక బస్సు గంటకు 80 కి.మీ. వేగంతో కదులుతుంది. సెకనుకు మీటర్లలో బస్సు వేగం ఎంత?
 (a) 8 m/sec (b) $20\frac{1}{9}$ m/sec (c) $22\frac{2}{9}$ m/sec (d) 30 m/sec
33. A boy goes to his school from his house at a speed of 3 km/hr and returns at a speed of 2 km/hr. If he takes 5 hours in going and coming the distance between his house and school is []
 ఒక బాలుడు 3 km/hr వేగంతో పాఠశాలకు వెళతాడు మరియు 2 km/hr వేగంతో గ్రామానికి తిరిగి వస్తాడు. అతను మొత్తం 5 గంటలు తీసుకుంటే, గ్రామానికి మరియు పాఠశాలకు మధ్య దూరం ఎంత?
 (a) 5 km (b) 5.5 km (c) 6 km (d) 6.5 km
34. What is 80% of 90% of 10% of 900? []
 80% యొక్క 90% యొక్క 10% యొక్క 900 ఎంత?
 (a) 325/5 (b) 324/5 (c) 326/4 (d) 330/5
35. $x\%$ of 25 = 2.125, what is the value of x = ? []
 $x\%$ యొక్క 25 = 2.125, x విలువ ఎంత?
 (a) 6.5 (b) 2.5 (c) 8.5 (d) 8.0
36. What is 5% of 50% of 500? []
 5% యొక్క 50% యొక్క 500 ఎంత?
 (a) 12.5 (b) 25 (c) 1.25 (d) 6.25

37. A man brought a cycle for Rs. 250. For how much should he sell it so as to gain 10%. []
 ఓ వ్యక్తి సైకిల్‌ను రూ. 250 కి కొన్నాడు 10% లాభం పొందాలంటే అతను దానిని ఎంతకి అమ్మాలి.
 (a) Rs. 250 (b) Rs. 275 (c) Rs. 200 (d) Rs. 215
38. If C.P. = Rs. 56.25, Gain = 20% then find S.P. =? []
 C.P. = రూ. 56.25 లాభం = 20% అయినచో S.P. విలువ ఎంత?
 (a) Rs. 67.50 (b) Rs. 67 (c) Rs. 67.25 (d) Rs. 67.75
39. If cost price is equal to 300% of selling price, then find profit or loss percent. []
 ధర విక్రయ ధరలో 300% కి సమానం అయితే, లాభం లేదా నష్ట శాతాన్ని కనుగొనండి.
 (a) $66\frac{2}{3}\%$ (b) $67\frac{2}{3}\%$ (c) $68\frac{2}{3}\%$ (d) $69\frac{2}{3}\%$
40. Pradeep invested 20% more than Mohit. Mohit invested less than Raghu. If the total of their investment is Rs. 17,880 then amount invested by Raghu is _____. []
 మోహిత్ కంటే ప్రదీప్ 20% ఎక్కువ పెట్టుబడి పెట్టాడు. మోహిత్ రఘు కంటే తక్కువ పెట్టుబడి పెట్టాడు. వారి పెట్టుబడి మొత్తం రూ. 17,880 అప్పుడు రఘు పెట్టుబడి పెట్టిన మొత్తం _____.
 (a) Rs. 6,000 (b) Rs. 8,000 (c) Rs. 10,000 (d) Rs. 12,000
41. Three partners, A, B and C invest Rs. 16,000, Rs. 1,800 and Rs. 2,300 in a business. How should they divide the profit of Rs. 1,938. Find A share? []
 ఒక వ్యాపారంలో A, B మరియు C వరుసగా రూ. 16,000, రూ. 1,800 మరియు రూ. 2,300 పెట్టుబడి పెట్టారు. రూ. 1,938 మొత్తం లాభంలో A వాటాను కనుగొనండి ?
 (a) Rs. 840 (b) Rs. 1120 (c) Rs. 1320 (d) Rs. 1470
42. Find the simple interest on Rs. 5000/- for 5 years at 5% p.a. []
 5000/- రూ. పై 5 సంవత్సరాలకు 5% p.a. సాధారణ వడ్డీని కనుగొనండి.
 (a) Rs. 1250 (b) Rs. 1500 (c) Rs. 1300 (d) Rs. 1200
43. A sum of money becomes four times in 20 years at S.I. Find the rate of interest. []
 సరళ వడ్డీ వద్ద డబ్బు మొత్తం 20 సంవత్సరాలలో నాలుగు రెట్లు అవుతుంది. వడ్డీ రేటును కనుగొనండి.
 (a) 10% (b) 13% (c) 12% (d) 15%
44. Find the compound interest on Rs. 20,000 for 2 years at 10% p.a. []
 10% p.a. వద్ద 2 సంవత్సరాలకు రూ. 20,000 అయినచో చక్రవడ్డీని కనుగొనండి.
 (a) Rs. 2400 (b) Rs. 4200 (c) Rs. 3600 (d) Rs. 24,200

45. If Arun brought a bike for Rs. 54,000 and sold for Rs. 63,420, find the profit percent? []
 అరుణ్ రూ. 54,000 కొన్నాడు మరియు రూ. 63,420 కి అమ్మాడు. లాభం శాతాన్ని కనుగొనండి?
 (a) 17.44% (b) 16.44% (c) 17.24% (d) 16.24%

Study the following table carefully and answer the following questions. Student strength of XYZ college in the academic year 2019-20.

2019-20 విద్యా సంవత్సరంలో XYZ కళాశాల విద్యార్థి సంఖ్య క్రింది పట్టికను జాగ్రత్తగా అధ్యయనం చేసి, ఈ క్రింది ప్రశ్నలకు సమాధానం ఇవ్వండి.

	Arts (ఆర్ట్స్)		Commerce (కామర్స్)		Science (సైన్స్)		Total (మొత్తం)
	Boys (అబ్బాయిలు)	Girls (బాలికలు)	Boys (అబ్బాయిలు)	Girls (బాలికలు)	Boys (అబ్బాయిలు)	Girls (బాలికలు)	
I Year I (సం.)	46	46	60	40	28	56	276
II Year II (సం.)	44	44	57	38	27	54	264
III Year III (సం.)	42	42	54	36	26	52	252
Total (మొత్తం)	132	132	171	114	81	162	792

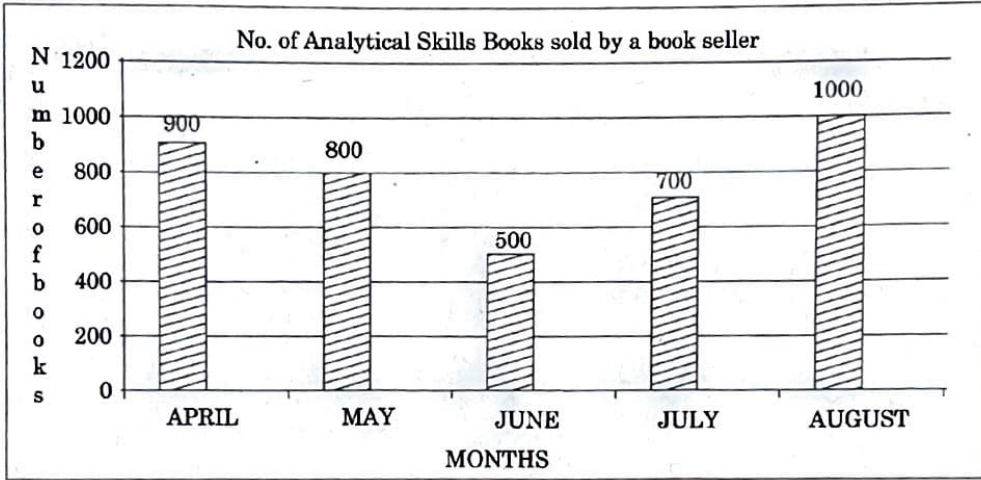
46. The total number of girls in the college in 2019-20 []
 2019-20 లో కళాశాలలో మొత్తం బాలికల సంఖ్య?
 (a) 208 (b) 308 (c) 408 (d) 508
47. The number of first-year boys is the academic year 2019-20 []
 2019-20 విద్యా సంవత్సరంలో మొదటి సంవత్సరం బాలుర సంఖ్య?
 (a) 134 (b) 135 (c) 136 (d) 124
48. The percentage of arts students in the total student strength of 2019 []
 2019 మొత్తం విద్యార్థుల సంఖ్య ఆర్ట్స్ విద్యార్థుల శాతం?
 (a) 33% (b) $33\frac{1}{3}\%$ (c) $23\frac{1}{3}\%$ (d) 23%

49. The difference between number of boys and girls in the academic year 2019-20. []
 2019-20 విద్యా సంవత్సరంలో అబ్బాయిలు మరియు బాలికల సంఖ్య మధ్య వ్యత్యాసం?
 (a) 34 (b) 35 (c) 38 (d) 24

50. The total number of boys in second year []
 రెండవ సంవత్సరంలో మొత్తం అబ్బాయిల సంఖ్య?
 (a) 128 (b) 130 (c) 132 (d) 126

The bar graph shows the number of copies "Analytical Skills" sold by a book seller during the period from April 2021 to August 2021

ఏప్రిల్ 2021 నుండి ఆగస్టు 2021 వరకు బుక్ గ్రాఫ్ వున్నక విక్రేత విక్రయించిన "విశ్లేషణాత్మక నైపుణ్యాలు" కాపీల సంఖ్యను చూపుతుంది.



51. What is the difference of the sale of books in April and August? []
 ఏప్రిల్ మరియు ఆగస్టులో వున్నకాల విక్రయానికి తేడా ఏమిటి?
 (a) 100 (b) 200 (c) 300 (d) 400

52. In which month was the sale of the book maximum? []
 ఏ నెలలో అత్యధికంగా వున్నక విక్రయం జరిగింది?
 (a) April (b) May
 ఏప్రిల్ మే
 (c) August (d) July
 ఆగస్టు జూలై

53. In which month was the sale of the book minimum? []

ఏ నెలలో అత్యల్పంగా పుస్తక విక్రయం జరిగింది?

- (a) July (b) June (c) May (d) August
 జూలై జూన్ మే ఆగస్టు

54. What is the total sale of the books during these five months? []

ఈ ఐదు నెలల్లో మొత్తం పుస్తకాల విక్రయం ఎంత?

- (a) 3500 (b) 3700 (c) 3800 (d) 3900

55. What is the average sale of the books during these five months? []

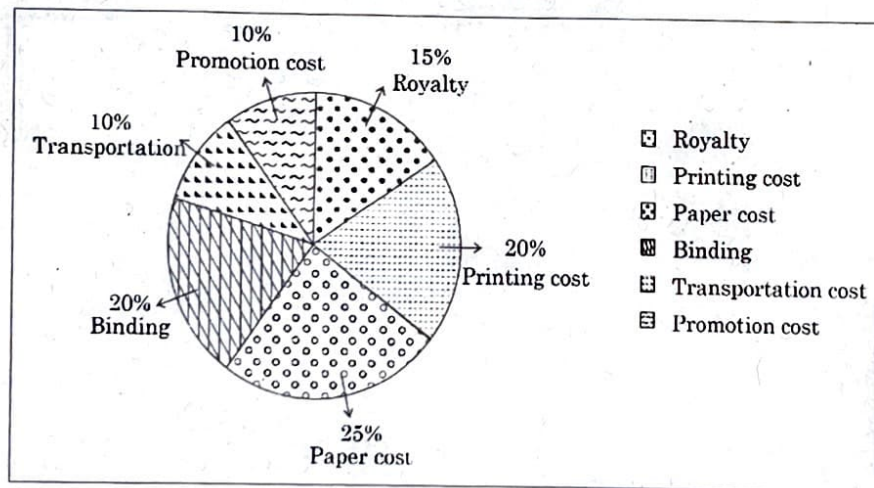
ఈ ఐదు నెలల్లో పుస్తకాల సగటు విక్రయం ఎంత?

- (a) 780 (b) 790 (c) 750 (d) 720

Study the Pie chart carefully to answer the questions that follow. Various expenditure incurred in publishing a book = Rs. 30,000

ఒక పుస్తకాన్ని ప్రచురించడానికి చేసిన వివిధ ఖర్చులు = రూ. 30,000. తదుపరి ప్రశ్నలకు సమాధానమివ్వడానికి పై చార్టును జాగ్రత్తగా అధ్యయనం చేయండి.

Various expenditure in publishing a book



56. What is the expenditure spent on binding? []

బైండింగ్ కోసం ఖర్చు చేసిన ఖర్చు ఎంత?

- (a) 6000 (b) 3000 (c) 2000 (d) 5000

57. What is the difference between the expenditure spent on paper cost and royalty? []

కాగితం ఖర్చు మరియు రాయల్టీ ఖర్చుల మధ్య తేడా ఏమిటి?

- (a) 5000 (b) 3000 (c) 2000 (d) 6000

58. How much expenditure spent on printing cost? []

ప్రింటింగ్ ఖర్చు ఎంత?

- (a) 4000 (b) 6000 (c) 3000 (d) 5000

59. How much expenditure spent on transportation cost? []

రవాణా ఖర్చుల కోసం ఎంత పెట్టారు?

- (a) 3500 (b) 3300 (c) 3000 (d) 3600

60. What is the ratio between the expenditure spend on promotion cost and to that of paper cost. []

ప్రమోషన్ ఖర్చు మరియు కాగితం ధరలపై ఖర్చు చేసిన మధ్య నిష్పత్తి ఎంత?

- (a) 2:5 (b) 2:3 (c) 2:2 (d) 2:6

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THREE YEAR B.A./B.Sc./B.Com./B.B.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Part III – Life Skill Courses

ENVIRONMENTAL EDUCATION

Time : Two hours

Maximum : 50 marks

(No additional sheet will be supplied)

SECTION A — (4 × 5 = 20 marks)

Answer any FOUR questions.

Each question carries 5 marks.

ఏవేని నాలుగు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

1. Composition of atmosphere.

వాతావరణం యొక్క మిశ్రమము.

2. Importance of water sources.

నీటి వనరుల ప్రాముఖ్యత.

3. Ecosystem diversity.

పర్యావరణ వ్యవస్థ వైవిధ్యం.

4. Desertification.

ఎడారికరణ.

5. Ozone layer depletion.

ఓజోన్ పొర క్షీణత.

6. Economic risks.

ఆర్థిక నష్టాలు.

7. Forest Conservation Act.

అటవీ సంరక్షణ చట్టం.

8. Kyoto protocol.

క్యోటో ప్రోటోకాల్.

SECTION B — (3 × 10 = 30 marks)

Answer any THREE questions.

Each question carries 10 marks.

ఏవైనా మూడు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

9. Discuss the scope of environmental education.
పర్యావరణ విద్య యొక్క పరిధిని చర్చించండి.
10. "Man is an integral part of Nature" – Discuss.
"ప్రకృతిలో మనిషి అంతర్భాగం" – చర్చించండి.
11. Analyse the effects of deforestation.
అటవీ నిర్మూలన ప్రభావాలను విశ్లేషించండి.
12. What are the threats to Biodiversity?
జీవ వైవిధ్యానికి ముప్పు ఏమిటి?
13. Define the alternative sources of energy.
ప్రత్యామ్నాయ శక్తి వనరులను నిర్వచించండి.
14. Describe the provisions of Environment Protection Act.
పర్యావరణ పరిరక్షణ చట్టంలోని నిబంధనలను వివరించండి.

THREE YEAR B.A./B.Sc./B.Com./B.B.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Foundation Course : COMMUNICATION AND SOFT SKILLS – II

Time : Two hours

Maximum : 50 marks

(No additional sheet will be supplied)

-
1. Answer any TWO of the following questions: (2 × 2 = 4)
- (a) What are plosives? Give examples.
 - (b) What are voiced sounds?
 - (c) What is word accent?
 - (d) What is the difference between a pie diagram and a line graph?
2. Identify the sound of the underlined part of any THREE of the following words : (3 × 1 = 3)
- (a) Precher
 - (b) Foot
 - (c) Theatre
 - (d) Young
 - (e) Garage
3. Transcribe any THREE into Phonetic script : (3 × 1 = 3)
- (a) University
 - (b) Wonderful
 - (c) Bags
 - (d) Niece
 - (e) Alone
4. Answer the following questions : (3 × 5 = 15)
- (a) (i) What are the various types and functions of intonation?
Or
(ii) How should a candidate prepare for an interview?
 - (b) (i) Write a note on Rhythm in connected speech.
Or
(ii) Analyse the points a good public speaker uses in his/her speeches.
 - (c) (i) What are the benefits of public speaking?
Or
(ii) What are "problem solving skills" important in group discussion?

5. Rewrite the following with the correct spelling : (5 × 1 = 5)
- occassion
 - concieve
 - babys
 - fourward
 - commitee

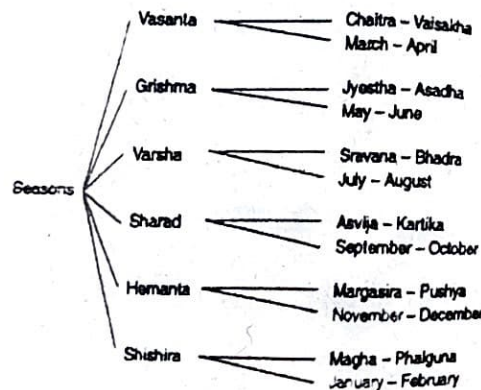
6. Punctuate the following : (1 × 5 = 5)
- mother said to her dont waste your time

7. Answer any ONE of the following : (1 × 5 = 5)
- Draw a flowchart for the following information given in the paragraph.

The customer can present his debit card at any shopping centre. As we use ATM card to withdraw money at any counter, Debit card does the same. When you present your debit card to a shop-keeper after your purchases, he swipes it on terminal keying in purchase amount. The customer keys the pin number and the process of transaction takes place at the terminal. The machine sends out a printed receipt for the benefit of both the shop-keeper and the customer. After deducting the amount from the Debit Cards for the bills of the customer, the shopkeeper returns the card to the customer. After the checking the amounts, the customer has to sign on the receipts and then only the shopkeeper returns the customer's debit card.

Or

- Study the following Tree Diagram and present the information in the form of a paragraph.



8. Answer any ONE of the following : (1 × 5 = 5)
- Convert the following passage into pie-chart.

There are 500 students in a school. Telugu is the mother-tongue of half the students. Of the remaining 250, Hindi is the mother tongue of 125 students while Tamil is spoken by 100. The rest speak other languages.

Or

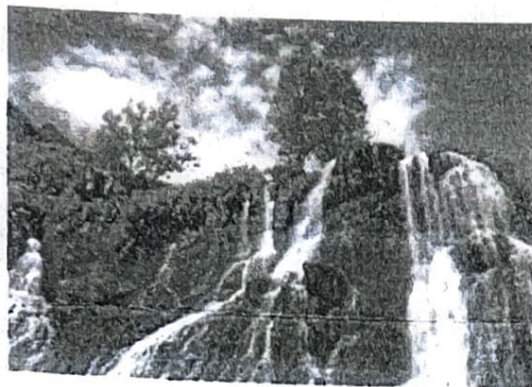
(b) Draw a suitable diagram for the following data:

ENROLLMENT OF STUDENTS IN A COLLEGE

Year	Boys	Girls
1998	5000	4911
1999	5200	5099
2000	5100	5067
2001	5100	5190
2002	5320	5205

9. Observe the following picture and describe it.

(1 × 5 = 5)



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NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Part III – Skill Development Courses

ONLINE BUSINESS

Time : Two hours

Maximum : 50 marks

(No additional sheet will be supplied)

SECTION A — (4 × 5 = 20 marks)

Answer any FOUR questions.

Each question carries 5 marks.

ఏవైనా నాలుగు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

1. Meaning of online business.

ఆన్‌లైన్ వ్యాపారం యొక్క అర్థం.

2. E-commerce.

ఇ-కామర్స్.

3. Issues in online business.

ఆన్‌లైన్ వ్యాపారం లోని సమస్యలు.

4. Procurement.

సేకరణ.

5. Logistic management.

లాజిస్టిక్స్ నిర్వహణ.

6. Planning process.

ప్రణాళికా ప్రక్రియ.

7. Payment gateways.

చెల్లింపు గేట్‌వేలు.

8. Legal issues.

చట్టపరమైన సమస్యలు.

SECTION B — (3 × 10 = 30 marks)

Answer any THREE questions.

Each question carries 10 marks.

ఏవైనా మూడు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

9. Describe the characteristic of online business.

ఆన్‌లైన్ వ్యాపారం యొక్క లక్షణాలను వివరించండి.

10. What are the advantages of online business?

ఆన్‌లైన్ వ్యాపారం వల్ల లాభాలను తెలుపుము.

11. Examine the differences between online business and off-line business.

ఆన్‌లైన్ వ్యాపారం మరియు ఆఫ్‌లైన్ వ్యాపారం తేడాలను పరిశీలించండి.

12. Describe about customer relationship management.

క్స్టమర్ సంబంధాల నిర్వహణ గురించి వివరించండి.

13. Suggest ways of designing online business website.

ఆన్‌లైన్ వ్యాపార వెబ్‌సైట్ రూపకల్పన మార్గాలను సూచించండి.

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NOVEMBER/DECEMBER 2024

THIRD SEMESTER

Part III – Skill development Courses

RETAILING

Time : Two hours

Maximum : 50 marks

(No additional sheet will be supplied)

SECTION A — (4 × 5 = 20 marks)

Answer any FOUR questions.

Each question carries 5 marks.

ఏదేని నాలుగు ప్రశ్నలకు సమాధానము వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

1. What are the different types of retailing?

వివిధ రకాల చిల్లర వర్తకాలు ఏవి?

2. Importance of retailing.

చిల్లర వర్తకం యొక్క ప్రాముఖ్యత

3. Write notes on store design.

స్టోర్ రూపకల్పన గురించి వ్రాయుము.

4. Merchandise planning.

వర్తక ప్రణాళిక.

5. Administrative mechanism.

పరిపాలనా యంత్రాంగం.

6. Communications with customers.

ఖాతాదారులతో భావప్రసారం.

7. Write notes on job profile.

జాబ్ ప్రొఫైల్ గురించి వ్రాయుము.

8. Customer Care.

ఖాతాదారుల పై శ్రద్ధ.

SECTION B — (3 × 10 = 30 marks)

Answer any THREE questions.

Each question carries 10 marks.

ఏదేని మూడు ప్రశ్నలకు సమాధానము వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

9. Describe the factors influencing the growth of retailing India?
భారతదేశంలో చిల్లర వర్తక అభివృద్ధిని ప్రభావితం చేసే అంశాలను వివరింపుము.
10. Explain the various factors influencing selection of location.
స్థానీకరణ లేదా స్థల ఎంపికను ప్రభావితం చేసే వివిధ అంశాలను వివరించుము.
11. Describe the different types of retail outlets.
వివిధ రకాల చిల్లర సంస్థల (దుకాణాల)ను వివరించుము.
12. What are different types of services provided to customers?
ఖాతాదారులకు కల్పించే వివిధ రకాల సేవలు ఏవి?
13. Explain the role of Human resources on retail business.
చిల్లర వర్తకంలో మానవ వనరుల యొక్క పాత్రను వివరించుము.

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NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Part III – Life Skill Course

ENVIRONMENTAL AUDIT

Time : Two hours

Maximum : 50 marks

(No additional sheet will be supplied)

SECTION A — (4 × 5 = 20 marks)

Answer any FOUR questions.

Each question carries 5 marks.

ఏవేని నాలుగు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

1. Weather pollution.
వాతావరణ కాలుష్యం.
2. Soil conservation.
నేల పరిరక్షణ
3. Soil parameters.
నేల పారామితులు.
4. The water Cess Act, 1977.
నీటి సెస్ చట్టం, 1977.
5. The public liability insurance Act, 1991
ప్రజా బాధ్యత భీమా చట్టం 1991.
6. Define environmental audit.
పర్యావరణ ఆడిట్ను నిర్వచించండి.
7. Importance of audit report to industry.
పరిశ్రమకు ఆడిట్ నివేదిక యొక్క ప్రాముఖ్యత.
8. Findings of environmental audit.
పర్యావరణ ఆడిట్ యొక్క ఫలితాలు.

SECTION B — (3 × 10 = 30 marks)

Answer any THREE questions.

Each question carries 10 marks.

ఏవేని మూడు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

9. Describe the classification of water bodies.

నీటి వనరుల వర్గీకరణను గురించి వివరించండి.

10. What is the impact of soil pollution.

నేల కాలుష్యం యొక్క ప్రభావం ఏమిటి?

11. Examine the provisions of the environment Act, 1986.

పర్యావరణ చట్టం 1986 లోని నిబంధనలను పరిశీలించండి.

12. What are the objectives of environmental audit.

పర్యావరణ ఆడిట్ యొక్క లక్ష్యాలు ఏవో తెలపండి.

13. Explain the importance of environmental audit report to governments.

పర్యావరణ ఆడిట్ నివేదిక యొక్క ప్రాముఖ్యతను ప్రభుత్వాలకు వివరించండి.

RS 34007/RS 35007

THREE YEAR B.Com. (Gen)/B.Com (Computer Application) (CBCS) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024

THIRD SEMESTER

CORPORATE ACCOUNTING

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions

Each question carries 5 marks.

ఏవైనా ఐదు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

1. Process of book building.
బుక్-బిల్డింగ్ ప్రక్రియ.
2. Reissue of forfeited shares.
జప్తు చేసిన వాటాల తిరిగి జారీ.
3. Methods of redemption of debentures.
డిబెంచర్ల విమోచన పద్ధతులు.
4. Advantages of debentures.
డిబెంచర్ల యొక్క ప్రయోజనాలు.
5. Methods of valuation of shares.
వాటాల మూల్యాంకన పద్ధతులు.
6. Super profits method.
అదనపు లాభాల పద్ధతి.
7. Draw the profit and loss statement.
లాభనష్టాల నివేదికను వ్రాయుము.

8. Adjustment entries

సర్దుబాటు పద్దులు

(a) Closing stock

ముగింపు సరుకు

(b) Provision for tax.

పన్ను కొరకు ఏర్పాటు.

9. Buyback of shares.

వాటాల తిరిగి కొనుగోలు చేయడం.

10. Issue of bonus shares accounting entries.

బోనస్ వాటాల జారీకి చిట్టా పద్దులు.

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

11. A Ltd issued 50,000 shares of Rs.100 each. Amount payable Rs.20 on application, Rs.35 on allotment, Rs.30 on first call and Rs.15 on final call. All the shares were subscribed and fully paid up except final call on 1,000 shares held by X. The directors forfeited those shares and reissued them to Z fully paid up for Rs.85 per share. Show the journal entries.

A లిమిటెడ్ వారు 50,000 వాటాలు రూ. 100 చొప్పున జారీ చేసినారు. మొత్తాన్ని దరఖాస్తు పై రూ. 20 కేటాయింపు పై రూ. 35, మొదటి పిలుపుపై రూ. 30 మరియు తుది పిలుపుపై రూ. 15. అన్ని వాటాలు చందా అయినవి మరియు X కలిగి ఉన్న 1,000 వాటాలపై గుది పిలుపు మినహా మిగిలినవి పూర్తిగా చెల్లించబడినవి. డైరెక్టర్లు వాటిని జప్తు చేసినారు మరియు వాటిని Z కు పూర్తిగా చెల్లించిన వాటాలుగా రూ. 85 చొప్పున తిరిగి జారీ చేసినారు. చిట్టా పద్దులు చూపుము.

Or

12. A limited company offered to the public 20,000 Equity Shares of Rs.10 each. The payment was to be as follows:

On application – Rs. 2

On allotment – Rs. 3

On first call – Rs. 2

On final call – Rs. 3

The company received applications for all the shares and accepted. Pass necessary journal entries in the books of company.

ఒక లిమిటెడ్ కంపెనీ 20,000 ఈక్విటీ వాటాలు రూ. 10 విలువ గల వాటిని జారీ చేసినది. చెల్లింపులు క్రింది విధంగా చెల్లించాలి.

క్రింది విధంగా చెల్లించాలి

దరఖాస్తు పై రూ. 2

కేటాయింపు పై రూ. 3

మొదటి పేలుపుపై రూ. 2

తుది పేలుపుపై రూ. 3

కంపెనీ వారికి అన్ని వాటాలకు దరఖాస్తులు వచ్చినవి మరియు అంగీకరించి వాటాలను కేటాయింపారు. కంపెనీ పుస్తకాలలో అవసరమైన చిట్టా పద్దులు వ్రాయుము.

13. A company issued 1,000, 10% debentures of Rs. 2,000. Pass necessary journal entries in the following cases regarding issue and redemption

- Debentures are issued at par and redeemed at par
- Debentures are issued at par and redeemed with 10% premium
- Debentures are issued with 10% premium and redeemed at par.

ఒక కంపెనీ 1,000, 10% డిబెంచర్లు రూ. 2,000 చొప్పున జారీ చేసినది. క్రింది సందర్భాలలో జారీ మరియు విమోచనకు చిట్టా పద్దులు వ్రాయుము.

- డిబెంచర్ల సమ మూల్యానికి జారీ మరియు సమ మూల్యానికి విమోచనం
- డిబెంచర్ల సమ మూల్యానికి జారీ మరియు 10% ప్రీమియంతో విమోచన
- డిబెంచర్లను 10% ప్రీమియంతో జారీ మరియు సమ మూల్యానికి విమోచన

Or

14. What are the different types of debentures? Explain.

వివిధ రకాల డిబెంచర్లు ఏవి? వివరించుము.

15. Describe the various methods of valuation of goodwill.

గుడ్విల్ మూల్యాంకనకు గల వివిధ పద్ధతులను వివరించుము.

Or

16. Ranga Co. Ltd balance sheet as at 31-12-2023

Liabilities		Rs.	Assets		Rs.
5,000 equity shares of 100 each fully paid		5,00,000	Goodwill		60,000
			Buildings		2,00,000
1,000, 8% Pref. shares of Rs.100 each		1,00,000	Machinery		1,50,000
Reserves		60,000	Furniture		30,000
Creditors		60,000	Stock		1,20,000
			Debtors		90,000
			Bank		60,000
			Preliminary expenses		10,000
		<u>7,20,000</u>			<u>7,20,000</u>

The value of assets at market price was

- Goodwill Rs. 70,000
- Machinery Rs. 1,76,000
- Buildings Rs. 2,25,000
- Stock Rs. 1,30,000
- Furniture is to be depreciated by 10% and debtors are expected to realize at 80% of book value.

Find out value of equity share.

31-12-2023 న రంగా కంపెనీ లిమిటెడ్ ఆస్తి అప్పుల వట్టి

అప్పులు	రూ.	ఆస్తులు	రూ.
5,000 ఈక్విటీ వాటాలు రూ. 100 విలువ గలవి పూర్తిగా చెల్లించినవి	5,00,000	గుడ్విల్	60,000
1,000, 8% ఆధిక్యపు వాటాలు రూ. 100 విలువ గలవి	1,00,000	భవనాలు	2,00,000
రిజర్వులు	60,000	యంత్రాలు	1,50,000
ఋణదాతలు	60,000	ఫర్నిచరు	30,000
		సరుకు	1,20,000
		ఋణాగ్రస్తులు	90,000
		బ్యాంకు	60,000
		ప్రాథమిక	10,000
		ఖర్చులు	
	<u>7,20,000</u>		<u>7,20,000</u>

ఆస్తుల మార్కెట్ విలువలు క్రింది విధంగా ఉన్నవి.

- (a) గుడ్విల్ రూ. 70,000
- (b) యంత్రాలు రూ. 1,76,000
- (c) భవనాలు రూ. 2,25,000
- (d) సరుకు రూ. 1,30,000
- (e) ఫర్నిచరును 10% చే తగ్గించాలి మరియు ఋణాగ్రస్తుల నుండి వుస్తకపు విలువలో 80% వసూలు కాగలదు.

ఈక్విటీ వాటాల విలువను లెక్కించుము.

17. On 31st March 2024 the following ledger balances were extracted from books Murugan Limited

Particulars	Debit Rs.	Credit Rs.
Share capital (called up)		12,00,000
Plant and machinery	10,00,000	
Stock (1-4-2023)	2,00,000	
Furniture	20,000	
Debtors and creditors	2,00,000	1,20,000
Buildings	8,00,000	
Purchases and sales	4,50,000	9,00,000
Returns	9,000	4,500
Bills receivable and bills payable	1,20,000	80,000
Interim dividend paid	40,000	
General expenses	20,000	
10% Debentures		1,80,000
Debentures interest paid	9,000	
Goodwill	60,000	
Wages	40,000	
Carriage inwards	10,000	
Discount	30,000	50,000
General reserve		50,000
Profit and loss account		80,000
Cash at bank	60,000	
Provision for bad debts		6,000
Preliminary expenses	25,000	
Commission		25,000
Bank loan		3,97,500
	<u>30,93,000</u>	<u>30,93,000</u>

Prepare statement of profit and loss for the year ended 31st March 2024 and balance sheet as on that date. The closing stock as on that date Rs. 2,20,000.

క్రింది ఆచరణ నిల్వలు మార్చి 31, 2024 న ఉన్న మురుగన్ లిమిటెడ్ వున్నకాల నుండి సేకరించబడినవి.

వివరాలు	డెబిట్ రూ.	క్రెడిట్ రూ.
వాటా మూలధనం (పిలిచినది)		12,00,000
ప్లాంటు యంత్రాలు	10,00,000	
సరుకు (1-4-2023)	2,00,000	
ఫర్నిచరు	20,000	
ఋణగ్రస్తులు మరియు ఋణదాతలు	2,00,000	1,20,000
భవనాలు	8,00,000	
కొనుగోళ్ళు మరియు అమ్మకాలు	4,50,000	9,00,000
వాపసులు	9,000	4,500
వసూలు బిల్లులు మరియు చెల్లింపు బిల్లులు	1,20,000	80,000
చెల్లించిన మధ్యకాలిక డివిడెండు	40,000	
సాధారణ ఖర్చులు	20,000	
10% డిబెంచర్లు		1,80,000
చెల్లించిన డిబెంచర్లపై వడ్డీ	9,000	
గుడ్-విల్	60,000	
వేతనాలు	40,000	
లేవలీ రవాణా	10,000	
డిస్కాంటు	30,000	50,000
సాధారణ రిజర్వు		50,000
లాభనష్టాల ఖాతా		80,000
బ్యాంకులో నగదు	60,000	
రాని బాకీల కొరకు ఏర్పాటు		6,000
ప్రాథమిక ఖర్చులు	25,000	
కమీషన్		25,000
బ్యాంకు ఋణం		3,97,500
	<u>30,93,000</u>	<u>30,93,000</u>

31 మార్చి 2014 తో అంతమయ్యే సంవత్సరానికి లాభనష్టాల నివేదికను మరియు ఆ తేదీన ఉన్న ఆస్తి అప్పుల పట్టీని తయారు చేయుము. ఆ తేదీన ఉన్న ముగింపు సరుకు రూ. 2,20,000.

Or

18. Draw the proforma of balance sheet of a company as per the Companies Act 2013.

కంపెనీల చట్టం 2013 ప్రకారం కంపెనీ యొక్క ఆస్తి అప్పుల పట్టీ నమూనాను వ్రాయండి.

19. The following balances appeared in the books of A Ltd.

	Rs.
4,00,000 Equity Shares of Rs.10 each	40,00,000
2,00,000 Equity Shares of Rs.10 each Rs.8 per share paid	16,00,000
Profit and loss account (Cr) balance	1,80,000
Capital reserve	3,00,000
Securities premium	3,50,000
Capital redemption reserve	5,00,000
General reserve	13,00,000

The company decided to convert its partly paid-up shares into fully paid and the fully paid shareholders are also allotted fully paid bonus shares in the same ratio. Journalise the above.

A లి|| పుస్తకాలలో క్రింది నిర్వహణ కనబడుచున్నవి.

	రూ.
4,00,000 ఈక్విటీ వాటాలు రూ. 10 చొప్పున	40,00,000
2,00,000 ఈక్విటీ వాటాలు రూ. 10 విలువ గలవి రూ. 8	16,00,000
చెల్లించినవి	
లాభనష్టాల ఖాతా క్రెడిట్ నిల్వ	1,80,000
మూలధన రిజర్వు	3,00,000
వాటా ప్రీమియం	3,50,000
మూలధన విమోచన రిజర్వు	5,00,000
సాధారణ రిజర్వు	13,00,000

కంపెనీ వారు పాక్షికంగా చెల్లించిన వాటాలను పూర్తిగా చెల్లించిన వాటాలుగా మార్చిడి చేయడానికి మరియు అదే నిష్పత్తిలో పూర్తిగా చెల్లించిన వాటాదారులకు బోనస్ వాటాలను జారీ చేయడానికి నిర్ణయించినారు. పై వ్యవహారాలకు చిట్టా పద్దులు వ్రాయుము.

Or

20. What are the advantages and disadvantages of buyback of shares?

వాటాలను తిరిగి కొనుగోలు చేయడం వలన ప్రయోజనాలు మరియు లోపాలు ఏవి?

3 MJ 40105/3 MJ 50105

B.Com. (Com) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER
ADVANCED ACCOUNTING

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

Each answer carries 5 marks.

1. Discuss the accounting treatment for donations received by non-profit organizations.
2. What are the key differences between capital and revenue expenditure?
3. Explain the concept of depreciation and the methods used to calculate it.
4. What is a Partnership Deed, and what are its essential elements?
5. Describe the process of preparing a Trial Balance and its purpose.
6. Explain how profit-sharing ratios are calculated when a partner retires.
7. What is the difference between a Receipts and Payments Account and an Income and Expenditure Account?
8. Discuss the treatment of bad debts and provision for doubtful debts in accounting.
9. Explain the treatment of interest on drawings and interest on capital in partnership accounts.
10. Describe the accounting treatment for loss of goods due to fire or natural calamity.

SECTION B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Explain the preparation of an Income and Expenditure Account and Balance Sheet for non-profit organizations using the following data:
 - (a) Subscriptions received: ₹ 150,000 (₹ 20,000 related to the previous year and ₹ 10,000 for the next year)
 - (b) Donations: ₹ 50,000 (to be capitalized)
 - (c) Expenses: Salaries ₹ 80,000, Rent ₹ 20,000, Printing ₹ 5,000, and Repairs ₹ 15,000.
 - (d) Depreciation on equipment: ₹ 10,000.

Or

12. Prepare the Receipts and Payments Account and Income and Expenditure Account for a school with the following transactions:
- (a) Opening cash balance: ₹25,000.
 - (b) Subscriptions received during the year: ₹2,00,000.
 - (c) Tuition fees: ₹3,00,000.
 - (d) Donations for building fund: ₹ 1,00,000.
 - (e) Expenses incurred: Rent ₹50,000, Teacher salaries ₹ 1,80,000, Library expenses ₹15,000. and Miscellaneous ₹10,000.
 - (f) Closing cash balance : ₹ 50,000.
13. Explain the adjustments required during the conversion of a single entry system to a double entry system.

Or

14. Mr. Ramesh operates a small business and maintains his accounts on a single entry basis. The following balances are available:
- (a) Opening: Cash ₹30,000, Debtors ₹ 1,00,000, Creditors ₹70,000, Stock ₹60,000.
 - (b) Closing: Cash ₹20,000, Debtors ₹ 1,50,000, Creditors ₹90,000, Stock ₹80,000.
 - (c) Withdrawals for personal use during the year: ₹50,000.
 - (d) Additional capital introduced: ₹20,000.
 - (e) Sales (credit): ₹4,00,000; Purchases (credit): ₹2,50,000.
 - (f) Outstanding expenses: ₹8,000. Prepare a Statement of Profit or Loss for the year ended March 31, 2024.
15. Discuss the accounting treatment for goods repossessed under the hire purchase system and illustrate with journal entries.

Or

16. M/s XYZ Ltd. purchased a vehicle on hire purchase on April 1, 2023. The cash price was ₹5,00,000. The terms included a down payment of ₹ 1,50,000 and three annual installments of ₹ 1,50,000 each, with an interest rate of 8% per annum. Prepare the Interest Calculation and the Journal Entries for M/s XYZ Ltd. for the first installment.
17. Describe the accounting procedure for the admission of a new partner when revaluing assets and liabilities.

Or

18. A, B, and C are partners sharing profits in the ratio of 2:2:1. The balance sheet as of March 31, 2024, is:
- (a) Liabilities: Capital — A ₹ 200,000, B ₹1,50,000, C ₹ 1,00,000; Creditors ₹ 80,000.
 - (b) Assets: Cash ₹30,000, Debtors ₹70,000, Stock ₹80,000, Land ₹2,50,000. D is admitted as a partner with a $\frac{1}{4}$ th share for ₹1,00,000 as capital and ₹50,000 as goodwill. Revaluations include:
 - (c) Increase in land by ₹20,000.
 - (d) Stock to be reduced by ₹ 10,000. Prepare the Revaluation Account, Partners' Capital Accounts, and the Balance Sheet after D's admission.

3 MJ 40105/3 MJ 50105

19. Discuss the steps involved in the dissolution of a partnership and the necessary accounting treatments.

Or

20. X, Y, and Z share profits in a ratio of 5:3:2. On March 31, 2024, their balance sheet shows:

- (a) Liabilities: X ₹ 2,50,000, Y ₹ 2,00,000, Z ₹ 1,50,000; Creditors ₹ 50,000.
- (b) Assets: Cash ₹ 20,000, Debtors ₹ 90,000, Inventory ₹ 1,00,000, Machinery ₹ 3,00,000. On April 1, 2024, Z retires, and adjustments are made:
- (c) Goodwill is valued at ₹ 60,000.
- (d) Inventory is undervalued by ₹ 10,000.
- (e) Create a provision for doubtful debts at 5% on debtors. Z is paid ₹ 1,00,000 in cash, and the balance is transferred to his loan account. Prepare the Revaluation Account, Capital Accounts, and the Balance Sheet after Z's retirement.

2 RS 34007

THREE YEAR B.Com. (Gen and Comp. App) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

3A – ADVANCED ACCOUNTING

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

1. Explain the characteristics of income and expenditure account.
2. From the following information, calculate the amount of subscriptions received by Happy Sports Club during the year ended 31st March, 2018.

Particulars	31.3.2017	31.3.2018
	(Rs.)	(Rs.)
Advance Subscription	3,000	4,500
Outstanding Subscription	4,500	6,000

The Club has 2,000 members each paying an annual subscription of Rs. 500.

3. Find out profit from the following data :

	Rs.
Capital at the beginning of the year	8,00,000
Drawings during the year	1,80,000
Capital at the end of the year	9,00,000
Capital introduced during the year	50,000

4. Advantages and limitations of single entry system.
5. G acquired a plant delivered on April 1, 2010 on the following terms :
Initial payment of Rs. 40,000 immediately; and 4 half-yearly instalments of Rs. 30,000 each commencing September 30, 2010. Interest is 10% with yearly rests. What is the cash price?
6. Distinction between hire purchase and instalment system.
7. Amar and Bahadur are partners in a firm sharing profits in the ratio of 3:2. They admitted Mary as a new partner for 1/4 share. The new profit sharing ratio between Amar and Bahadur will be 2:1. Calculate their sacrificing ratio.
8. What is memorandum revaluation account revaluation?
9. Consequences of Garner Vs Murray case explain with example.
10. What is realisation account explain with example.

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

11. The Receipt and Payment Account of Harimohan charitable institution is given:

Receipt and Payment Account for the year ending March 31, 2015			
Receipts	Amount	Payments	Amount
	Rs.		Rs.
Balance b/d:		Furniture	3,000
Cash at Bank	22,000	Investments	55,000
Cash in Hand	8,800	Advance for building	20,000
Donations	32,000	Charities	60,000
Subscriptions	50,200	Salaries	10,400
Endowment Fund	60,000	Rent and Taxes	4,000
Legacies	24,000	Printing	1,000
Interest on Investment	3,800	Postage	300
Interest on Deposits	800	Advertisements	1,100
Sale of old newspapers	500	Insurance	4,800
		Balance c/d:	
		Cash at Bank	32,000
		Cash in Hand	10,500
	<u>2,02,100</u>		<u>2,02,100</u>

Prepare the Income and Expenditure Account for the Year ended on March 31, 2015 after considering the following:

- It was decided to treat Fifty per cent of the amount received on account of Legacies and Donations as income.
- Liabilities to be provided for are:
Rent Rs. 800; Salaries Rs. 1,200; advertisement Rs. 200.
- Rs. 2,000 due for interest on investment was not actually received.

Or

12. From the following particulars taken from the Cash Book of a health club, prepare a Receipts and Payments Account.

Particulars	Rs.
Opening balance :	
Cash in Hand	5,000
Cash at Bank	25,000
Subscriptions	1,65,000
Donations	35,000
Investment Purchased	80,000
Rent Paid	20,000
General Expenses	21,500
Postage and stationery	2,000
Courier charges	1,000
Sundry Expenses	2,500

Particulars	Rs.
Sale of old news papers	500
Salaries	1,000
Outstanding rent	300
Subscriptions received in advance	1,500
Outstanding subscriptions	2,000
Closing Cash in Hand	12,000

13. Syam keeps his books by single entry method his position on 31-12-2014 and 31-12-2015 was as follows.

	31.12.2014	31.12.2015
	Rs.	Rs.
Cash	3,200	2,300
Stock	20,000	19,000
Debtors	8,500	14,000
Furniture	1,800	1,800
Machinery	15,000	27,000
Creditors	22,000	29,000

During the year Syam introduced Rs.5,000 as additional capital and withdrew Rs.750 per month. Provide depreciation on furniture @ 5% and reserve for baddebts @5% on debtors. Find profit or loss.

Or

14. Mr. A does not maintain complete double entry books of account. From the following details determine profit for the year and a Statement of Affairs as at the end of the year :

Rs. 1,000 (cost) Furniture was sold for Rs. 5,000 on 1.1.2012. 10% depreciation is to be charged on Furniture. Mr. A has drawn Rs. 1,000 p.m. Rs. 2,000 was invested by Mr. A in 2012:

	31.12.2014	31.12.2015
	Rs.	Rs.
Stock	40,000	40,000
Debtors	30,000	40,000
Cash	2,000	5,000
Bank	10,000	1,000 (over draft)
Creditors	15,000	25,000
Outstanding expenses	5,000	8,000
Furniture (Cost)	3,000	2,000

Bank Balance on 1.1.2012 is as per Cash Book, but the bank overdraft on 31.12.2012 is as per bank statement Rs. 2,000 cheques drawn in Dec. 2012 have not been en-cashed within the year.

15. Mr. Anil purchased a washing machine on 1 January 2015 from Adi Traders on hire purchase basis, the details of which are as follows.
- Cash price of washing machine: Rs. 25,000.
 - Down payment : 10,000 and the remaining amount in three equal annual instalments commencing from 1 January 2016 (first instalment) with interest on the outstanding amount.
 - Rate of interest 12% per annum. Determine the amount of interest payable with each of the three installments and the hire purchase price and prepare necessary ledger accounts in the books of Mr. Anil.

Or

16. X Ltd. purchased a machine on hire purchase system. The payment is made as follows:

	Rs.
Down Payment	23,200
1 st Instalment	35,700
2 nd Instalment	45,100
3 rd Instalment	21,000

The payments are made at the end of 1st year, 2nd year and 3rd year respectively. The rate of interest is 5% p.a. The annuity table shows that the present value of Re. 1 for one, two and three years is .9,524, .9,070 and .8,539 respectively. Calculate the cash price of the machine.

17. A, B and C are partners sharing profits and losses in the ratio of 5 : 3 : 2. On 31st, March 2015 their Balance sheet was as follows :

Liabilities		Rs.	Assets		Rs.
Capital			Cash		18,000
A	36,000		Bill Receivable		14,000
B	44,000		Stock		44,000
C	52,000	1,32,000	Debtors		42,000
Creditors		64,000	Machinery		94,000
Bills Payable		22,000	Goodwill		20,000
General Reserve		14,000			
		<u>2,32,000</u>			<u>2,32,000</u>

They decided to admit D into the partnership on the following terms :

- Machinery is to be depreciated by 15%.
- Stock is to be revalued at Rs. 48,000
- Outstanding rent is Rs. 1,900.
- D is to bring Rs. 6,000 as goodwill and sufficient capital for a 2/5th share in the capitals of firm. Prepare Revaluation A/c, Partner's Capital A/cs, Cash A/c and Balance Sheet of the new firm.

Or

18. Radha, Sheela and Meena were in partnership sharing profits and losses in the proportion of 3 : 2 : 1. On April 1, 2017. Sheela retires from the firm. On that date, their Balance Sheet was as follows :

Liabilities		Amount Rs.	Assets		Amount Rs.
Trade Creditors		3,000	Cash-in-Hand		1,500
Bills Payable		4,500	Cash at Bank		7,500
Expenses Owing		4,500	Debtors		15,000
General Reserve		13,500	Stock		12,000
Capitals :			Factory Premises		22,500
Radha	15,000		Machinery		8,000
Sheela	15,000		Losse Tools		4,000
Meena	15,000	45,000			
		<u>70,500</u>			<u>70,500</u>

The terms were :

- Goodwill of the firm was valued at Rs. 13,500.
- Expenses owing to be brought down to Rs. 3,750
- Machinery and loose tools are to be valued at 10% less than their book value.
- Factory premises are to be revalued at Rs. 24,300

Prepare :

- Revaluation account
- Partner's capital accounts and
- Balance sheet of the firm after retirement of Sheela.

19. Surjit and Rahi were sharing profits (losses) in the ratio of 3 : 2, their Balance Sheet as on March 31, 2017 is as follows :

Balance Sheet of Surjit and Rahi as on March 31, 2017

Liabilities	Amount Rs.	Assets	Amount Rs.
Creditors	38,000	Bank	11,500
Mrs. Surjit loan	10,000	Stock	6,000
Reserve	15,000	Debtors	19,000
Rahi's loan	5,000	Furniture	4,000
Capital's :		Plant	28,000
Sujit	10,000	Investment	10,000
Rahi	8,000	Profit and Loss	7,500
	<u>86,000</u>		<u>86,000</u>

The firm was dissolved on March 31, 2017 on the following terms :

- (a) Surjit agreed to take the investments at Rs. 8,000 and to pay Mrs. Surjit's loan.
- (b) Other assets were realised as follows :
- Stock Rs. 5,000
Debtors Rs. 18,500
Furniture Rs. 4,500
Plant Rs. 25,000
- (c) Expenses on Realisation amounted to Rs. 1,600
- (d) Creditors agreed to accept Rs. 37,000 as a final settlement.

You are required to prepare Realisation Account, Partner's capital Account and Bank Account.

Or

20. Rakesh Vishal and Vishesh were partners sharing profit and losses in the ratio of 3 : 2 : 1. On 31st March 2015 their Balance Sheet was as follows :

Liabilities	Amount	Assets	Amount
	Rs.		Rs.
Creditors	30,000	Cash at bank	9,500
Bills payable	5,000	Stock	15,500
Rakesh's loan	6,000	Debtors	32,000
Reserve fund	12,000	Furniture	5,000
Profit and Loss A/c	6,000	Machinery	21,000
Capitals :		Drawings :	
Rakesh	20,000	Rakesh	4,000
Vishal	15,000	Vishal	1,000
		Vishesh's capital	6,000
	<u>94,000</u>		<u>94,000</u>

The firm was dissolved. The assets realised as follows:

Stock – Rs. 12,200, Debtors – Rs. 30,100, Furniture – Rs. 4,200, Plant and Machinery taken over by Rakesh at Rs. 18,000. A contingent liability for bills receivable discounted materialised to the extent of Rs. 600. Realisation expenses amounted to Rs.600. Vishesh is insolvent, but his estate pays Rs. 1,900.

As per Partnership Deed, the capital deficiency to be shared by solvent partners in the ratio of their capitals as appearing in the Balance Sheet. Prepare Realisation Account. Partners' Capital Accounts, Rakesh's Loan Account and Bank Account to close the books of the firm.

3 MJ 40106/3 MJ 50106

THREE YEAR B.Com. (General) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

INCOME TAX

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

1. Previous year and Assessment Year
2. Allowances
3. Deductions U/S 24
4. Types of capital assets
5. Deductions u/s 80C
6. Agriculture Income
7. Profits in Lieu of salary
8. Define Business.
9. Person
10. Standard Rent

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Mention any ten Exempted Incomes Under Section 10.

Or

12. Following are the incomes of Miss. Arpitha for the current year.

	Rs.
(a) Profit from the business in Bangalore	20,000
(b) Income accrued in India but received in Japan	16,000
(c) Profit from business in Canada but received in India	15,000
(d) Income from House property in Karachi received in Mumbai	25,000
(e) Income from House property from America and deposited there	18,000
(f) Income from Indian dividends	12,000

Compute the total of Miss Arpitha if she is

- (i) Resident
- (ii) Not Ordinary Resident
- (iii) Non-Resident

13. From the following find out the taxable salary of Mr. Raju working at Chennai :

- (a) Salary Rs. 48,000 P.M
- (b) DA Rs. 6,000 RM
- (c) Bonus Rs. 33,000 RM
- (d) Employer contribution to employee recognized PF 14% of basic salary
- (e) Rent free accommodation (unfurnished) fair rental value is Rs. 2,00,000 P.A
- (f) A car (1.4 liters in capacity) is provided by employer. All expenses are born by employer. It is used both for performance of duties and private purpose. Car was used by employee for only 11 months during the year
- (g) She paid professional tax of Rs. 200
- (h) He received Rs. 1,000 P.M as fixed medical allowance.

Or

14. Calculate the salary income of Sri Virot from the following details for the previous year 2022-23 :

- (a) Basic salary Rs. 25,000
- (b) DA 40% of salary
- (c) Commission on sales Rs. 50,000
- (d) HRA Rs. 60,000
- (e) Medical Allowance Rs. 8,000
- (f) Employer and Employee contribution to RPF 16% of salary
- (g) Interest credited in RPF account Rs. 9,600 @ 12%
- (h) Children education allowance P.M Rs. 3,200 for 2 children

15. From the particulars given below compute income from house property which consists of two independent units having $\frac{1}{3}$ and $\frac{2}{3}$:

Date of completion	1-11-2024
Municipal Rental Value	Rs. 1,20,000
Fair Rental Value	Rs. 1,80,000
Self occupied	$\frac{2}{3}$ portion
Let-out	$\frac{1}{3}$ portion from 1.4.2024 to 31.8.2024 @ 10,000 PM and self occupied from 1.9.2024 onwards
Municipal taxes	Rs. 12,000
Free Insurance Premium	Rs. 4,000
Ground Rent	Rs. 8,000
Interest on Loan	Rs. 15,000

Or

3 MJ 40106/3 MJ 50106

16. The following is the profit and loss a/c for the year ending with 31 March prepare by the owner of a business compute from business for the current assessment year.

Profit & Loss A/C			
Particulars	Amount	Particulars	Amount
	Rs.		Rs.
To		By	
Proprietors salary	10,000	Gross profit	50,000
Salaries to staff	12,000	Profit on the sale of car	15,000
General expenses	7,000	Bad debts recovered	5,000
Interest on capital	2,000	Interest on Govt.	
Insurance premium (Fire)	5,000	Securities	4,000
Advertisements	2,700	Dividends	4,000
Depreciation	3,000	Interest on post office	4,000
Provision for bad debts	1,000	Savings a/c	
Income tax	4,000		
Donation to schools	3,000		
Car expenses	3,000		
Net profits	29,300		
Total	<u>82,000</u>	Total	<u>82,000</u>

Other Information :

- As per the income tax regulations, depreciation is Rs. 2,500 only
 - General expenses included the printing expenses incurred for the calendars Rs. 500
 - Advertisements included the expenses incurred for the distribution of pamphlets Rs. 1,000
17. Ms Saradha purchases 1000 equity shares in good luck limited an unlisted company, at a cost of Rs. 30 per share (brokerage 1%) in January 1996. She gets 100 bonus shares in August 2000. She gets 1100 bonus shares by virtue of her holding on February 2006. Fair market value of the shares of good luck ltd on 1st April, 2001 is Rs. 80. On 1st January 2022, she transfers all her shares @ Rs. 200 per share (brokerage 2%).

Compute the capital gains taxable in the hands of MS. Saradha for the A.Y. 2022-23.

Note : CII F.Y. 2001-02:100, 2005-06:117, 2021-22: 317.

Or

18. Mr. Vamsi, a resident in India earned the following incomes. Compute taxable Income under the head income from other sources for the current assessment year.

	Rs.
(a) Interest on securities	6,000
(b) Winning from horse race	12,500
(c) Dividend from a foreign company	26,000
(d) Interest on postal savings bank account	2,000
(e) Income from agricultural land in Bangladesh	20,000
(f) Received a gift of wrist watch from his cousin	5,000
(g) Directors fees	1,800

19. Write deductions u/s 80C to 80U of income Tax Act 1961.

Or

20. The Following incomes and losses of Anji were extracted from his records. Calculate taxable incomes for the current assessment year.

	Rs.
(a) Long term capital gain	3,30,000
(b) Short term capital gain	50,000
(c) Interest on fixed deposit	10,000
(d) Winning from lottery (gross)	10,000
(e) Deposited in NSC VIII issue	15,000
(f) Deposit in pension scheme u/s 80 CCC	30,000
(g) Income from salary computed	2,00,000

RS 34008/RS 35008

THREE YEAR B.Com. (General) (CBCS) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

BUSINESS STATISTICS

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer FIVE questions.

Each question carries 5 marks.

ఏవేని ఐదు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

1. Limitations of Primary data.
ప్రాథమిక దత్తాంశం యొక్క పరిమితులు.
2. What is Tabulation?
వర్గీకరణ అనగానేమి?
3. Define Mean? State its merits and demerits.
సగటును నిర్వచించి మరియు దాని లాభ, నష్టములను పేర్కొనుము.
4. Calculate mode for the following data
క్రింది దత్తాంశానికి బహుళము కనుగొనండి.
10, 25, 30, 15, 18, 31, 30, 18, 23, 36, 10, 25, 20
5. Range and its coefficient.
వ్యాప్తి మరియు వ్యాప్తి గుణము.
6. Explain mean deviation
మధ్యమ విచలనాన్ని వివరింపుము.
7. Uses of correlation.
సహసంబంధం యొక్క ఉపయోగములు
8. Explain Ranked data.
కోటికృత దత్తాంశమును వివరింపుము.
9. Chain Base Index number.
గొలుసు సూచీ సంఖ్యలు.
10. Uses of index numbers.
సూచీ సంఖ్యల యొక్క ఉపయోగాలను తెలుపుము.

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

11. Explain the importance and limitations of statistics.

గణాంక శాస్త్రం యొక్క ప్రాముఖ్యతను మరియు పరిమితులను వివరించుము.

Or

12. Construct histogram and frequency polygon for the following data.

క్రింది దత్తాంశానికి సోపాన చిత్రాన్ని, పొనఃపున బహుభుజిని నిర్మించుము.

C.I	0-10	10-20	20-30	30-40	40-50	50-60
f	5	15	22	28	18	3

13. Compute geometric mean for the following data.

క్రింది దత్తాంశానికి గుణమధ్యమాన్ని గణించుము.

C.I	10-20	20-30	30-40	40-50	50-60
f	8	13	22	8	5

Or

14. Calculate mode for the following frequency distribution.

క్రింది పొనఃపున్య విభాజనానికి బహుళకాన్ని గణించుము.

C.I	0-150	150-300	300-450	450-600	600-750	750-900
f	50	68	73	89	94	99

15. Compute quartile deviation and its coefficient for the following data.

క్రింది దత్తాంశానికి చతుర్థాంశ విచలనాన్ని, దాని గుణకాన్ని గణించుము.

C.I	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	5	11	18	25	32	20	13	7

Or

16. Calculate standard deviation for the following data.

క్రింది ఇచ్చిన దత్తాంశం నుండి విచరణ గుణకాన్ని కనుగొనండి.

C.I	0-5	5-10	10-15	15-20	20-25	25-30	30-35
f	3	12	21	25	19	10	6

17. Calculate Correlation coefficient for the data

క్రీంది డత్తాంశమునకు సహసంబంధతా గుణకము కనుగొనుము.

X	40	55	57	58	60	65	70	75	78	82
Y	46	50	48	59	61	64	60	65	74	90

Or

18. Derive the limits for rank Correlation Coefficient

కోటి సహసంబంధ గుణకము యొక్క అవధులను కనుగొనుము.

19. Explain Chain Base Index Numbers and Fixed Base Index Numbers

గొలును ఆధార మరియు స్థిరాధార సూచీ సంఖ్యలను వివరింపుము.

Or

20. Construct Fisher's ideal index and then prove the time reversal test.

ఫిషర్ ఆదర్శ సూచీ సంఖ్యను నిర్మించి కాలపరివర్తన పరీక్షను నిరూపించండి.

Commodity (వస్తువులు)	2015 Base Year (ఆధార సం॥)		2020 Current year (వర్తమాన సం॥)	
	Price (ధర)	Quantity (పరిమాణం)	Price (ధర)	Quantity (పరిమాణం)
A	75	100	80	100
B	44	200	43	200
C	19	140	22	140
D	15	120	18	120
E	20	180	27	180

2 RS 34008

THREE YEAR B.Com. (General)/B.Com. (Computer Application) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Course 3(B) – BUSINESS STATISTICS

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

ఏవేని ఐదు ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 5 మార్కులు.

1. Definition of statistics.

గణాంకశాస్త్ర నిర్వచనము.

2. Secondary data.

ద్వితీయ దత్తాంశము.

3. Characteristics of Measures of central tendency.

కేంద్ర స్థాన కొలతల లక్షణములు.

4. What is Geometric mean.

గుణ మధ్యమము అనగానేమి?

5. Properties of dispersion.

విస్తరణ మాన లక్షణాలు.

6. Find Bowley's coefficient of skewness for $Q_1 = 13.4, Q_2 = 26.2, Q_3 = 28.4$

$Q_1 = 13.4, Q_2 = 26.2, Q_3 = 28.4$ బౌలీ వైప్రమ్య గుణకంను లెక్కించండి.

7. Mean Deviation.

మధ్యమ విచలనము.

8. Meaning of correlation.

సహసంబంధం అనగానేమి?

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయుము.

ప్రతి ప్రశ్నకు 10 మార్కులు.

9. (a) From the following data, Construct-Frequency polygon.

దిగువ యిచ్చిన దత్తాంశం ఆధారంగా పానఃపున్య బహుభుజి నిర్మించండి.

CI	0-10	10-20	20-30	30-40	40-50	50-60	60-70
F	30	50	70	40	60	30	40

Or

- (b) Explain the characteristics of Tabulation and uses.

వట్టికరణ యొక్క లక్షణాలను మరియు ఉపయోగాలను పేర్కొనుము.

10. (a) From the following data, calculate Mean and Median.

దిగువ యిచ్చిన దత్తాంశం నుండి అంకమధ్యమము, మధ్యగతం లెక్కకట్టండి.

CI	0-5	5-10	10-15	15-20	20-25	25-30	30-35
F	6	12	21	40	27	19	8

Or

- (b) Calculate mode for the following data

దిగువ దత్తాంశము ఆధారంగా బాహుళకం లెక్కకట్టండి.

CI	0-10	10-20	20-30	30-40	40-50	50-60
F	5	13	19	25	16	10

11. (a) From the following data, calculate Mean Deviation

దిగువ యిచ్చిన దత్తాంశము నుండి మధ్యమ విచలనము లెక్కించండి.

CI	0-20	20-40	40-60	60-80	80-100	100-120	120-140
F	7	10	16	22	7	5	4

- (b) Calculate standard Deviation.

Or

ప్రామాణిక విచలనం కనుగొనండి.

CI	0-10	10-20	20-30	30-40	40-50	50-60	60-70
F	3	11	13	20	16	8	5

12. (a) Find Bowleys coefficient of Skewness from the following data:

క్రింది దత్తాంశం నుండి బౌలీ అసౌష్ఠ్య గుణకము కనుగొనుము.

CI	0-5	5-10	10-15	15-20	20-25	25-30
F	5	9	25	29	38	55

Or

- (b) Compute Karl Pearson's Coefficient of Skewness.

కార్ల్ పియర్సన్స్ వైపమ్య గుణకంను గణన చేయండి.

CI	0-10	10-20	20-30	30-40	40-50	50-60	60-70
F	4	11	25	40	18	8	2

13. (a) Calculate Karl Pearsons coefficient of correlation

కార్ల్ పియర్సన్ సహ సంబంధ గుణకము లెక్కించండి.

X	50	70	60	80	70	65	75
Y	50	42	60	55	45	60	30

Or

- (b) Calculate spearman's rank correlation coefficient for the following data.

క్రింది దత్తాంశానికి స్పీయర్మన్ కోటి సహసంబంధ గుణకమును కనుగొనుము.

X	35	40	25	55	85	65	50
Y	100	140	110	100	150	130	120

RS 35009 A

THREE YEAR B.Com. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Computer Science, Applications and IT

PROGRAMMING IN C

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

Each question carries 5 marks.

1. What is an Algorithm and what are the features of Algorithm?
2. What is variable? Give the rules for variable declaration.
3. How does nested if-else works explain with an example?
4. Differentiate between break and continue.
5. What is multi-dimensional array?
6. Explain declaration and initialization of array of strings.
7. What is storage class? What are the different storage classes in C?
8. Write about Scope of Variables.
9. Difference between an array of pointers and a pointer to an array.
10. What is the similarity between a Structure, Union and enumeration?

PART B — (5 × 10 = 50 marks)

Answer FIVE questions.

Each question carries 10 marks.

11. Write detailed notes on C data types.

Or

12. What is constant? Explain different constants in C.

13. Explain various branching statements in C with examples.

Or

14. Explain loop control (or) iteration statements in C.

15. Define an array. How to initialize one-dimensional array? Explain with suitable examples.

Or

16. Illustrate multidimensional arrays with example program.

17. What is a Function? Explain call by value and call by reference in C.

Or

18. What is Recursion? What are the advantages and disadvantages of recursion?

19. Define a Structure. Explain Nested structure with syntax and suitable example.

Or

20. What are the differences between Structures and Union?

2 RS 36073

THREE YEAR B.Com. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Computer Science/Computer Application

Course C3 : DATABASE MANAGEMENT SYSTEM

(w.e.f. the academic year 2020-21)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

1. Explain Data, information, Database, DBMS and Metadata.
2. Write about Generalization and Specialization.
3. Write about referential integrity.
4. Explain SQL Data Types.
5. Explain the structure of PL/SQL block.
6. What is a view? Explain it.
7. Differences between functions and procedures.
8. Write about operators precedence in PL/SQL.

SECTION B — (5 × 10 = 50 marks)

Answer any FIVE questions.

9. (a) Discuss about different types of Data models.

Or

- (b) Explain in detail the components of Database Management System.

10. (a) What is an Entity? Explain different type of Entities.

Or

- (b) What is relationship degree? Explain different degrees of relationship with example.

11. (a) What is Relational algebra? Explain various relational algebra operators with suitable example.

Or

(b) What is Normalization? Explain the various Normalization Techniques with suitable example.

12. (a) Explain Data Definition Language (DDL) commands with examples.

Or

(b) Discuss various types of Join operations with examples.

13. (a) Explain different types of iterative controls in PL/SQL.

Or

(b) Define Trigger. Explain about the different types of Triggers with an example.

3 MJ 50107

THREE YEAR B.Com. (Comp) (CBCS) DEGREE EXAMINATION, NOVEMBER 2024.

THIRD SEMESTER

Course VII – E COMMERCE AND WEB DESIGNING

(w.e.f. 2023-24)

(Major)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

1. Explain about E-Commerce with 5-C Model.
2. Explain about actors and stakeholders.
3. Explain about PROCUREMENT PLATFORM.
4. Explain about differences between B2b and B2c.
5. Write important technology for technology in ISM.
6. Explain about Cyber Money.
7. Explain about HTML attributes.
8. Explain about block quote elements in HTML.
9. Explain about span and div elements.
10. Explain about RGB values for color.

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

Each question carries 10 marks.

11. Explain about advantages and disadvantages in e-commerce.

Or

12. Describe seven steps for fundamental sales process in e-commerce.

13. Explain about the process model and its variants.

Or

14. Explain about B2B Basics. The different types of B2B e-commerce.

15. Explain about foundations of risk management.

Or

16. Explain about payment procedures.

17. What is HTML? Explain the structure of HTML program.

Or

18. Explain different types of text elements in HTML.

19. What is CSS? Explain about CSS syntax and styles.

Or

20. Explain about font properties in CSS.

2 RS 34009 C

THREE YEAR B.Com. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Computer Application

Course 3C : PROGRAMMING WITH C AND C++

(w.e.f. the academic year 2020-21)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

1. Explain history of 'C' language.
2. Explain jump statement with example.
3. Differentiate between call by value and call by reference.
4. What is copy constructor? When it is used implicitly for what purpose?
5. Explain the benefits of inheritance.
6. Explain nested if else statement with example.
7. What is a class? How objects of a class are created?
8. What are destructors in C++?

PART B — (5 × 10 = 50 marks)

Answer FIVE questions.

9. (a) Define Data type. Explain different data types supported by C language.
Or
(b) Explain if, if-else, nested if-else and cascaded if-else with examples and syntax.
10. (a) Explain the different types of loops in C with example.
Or
(b) What is an array? Explain two-dimension array with example.
11. (a) Explain different String- Handling Functions used in String.
Or
(b) Define Recursion. How Recursion will be implemented? Explain with an example.

12. (a) Difference between object oriented programming and procedure oriented programming.

Or

(b) Explain Friend function with example.

13. (a) What does inheritance means in C++? What are different forms of inheritance? Give an example of each.

Or

(b) Explain the differences between public, private and protected access modifiers with examples.

3 MJ 50108

THREE YEAR B.Com. (Comp) (CBCS) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024

THIRD SEMESTER
DIGITAL MARKETING

(Major)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

1. Define digital marketing and explain its key components.
2. What are the advantages of digital marketing over traditional marketing?
3. Briefly describe the types of online advertising.
4. Explain the significance of A/B testing in online advertising campaigns.
5. What are the essential elements of an effective e-mail marketing strategy?
6. Discuss the importance of segmentation in e-mail marketing.
7. List and explain the popular social media platforms used for marketing purposes.
8. What is social media engagement, and why is it crucial for businesses?
9. Explain the importance of keyword research in SEO.
10. Differentiate between on-page and off-page SEO techniques.

PART B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Explain the key challenges faced in digital marketing and how to overcome them.
Or
12. Discuss the role of data analytics in shaping digital marketing strategies.
13. Describe the different types of online advertising and their effectiveness.
Or
14. Explain the importance of targeting and personalization in online advertising.

15. Outline the steps involved in creating a successful e-mail marketing campaign.

Or

16. Discuss the challenges and solutions for ensuring e-mail deliverability and open rates.

17. Examine the strategies used in social media marketing to build brand loyalty.

Or

18. Discuss the impact of social media algorithms on content visibility and marketing strategies.

19. Describe the process of optimizing a website for search engines.

Or

20. Explain the significance of back links in SEO and how to build them effectively.

3MN 20202

THREE YEAR U.G. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Business Management (Minor)

ORGANIZATIONAL BEHAVIOUR

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

1. Importance of Organizational Behaviour
2. List the types of personality
3. Managerial Grid
4. Group Decision
5. Organizational Development process
6. Organizational Culture
7. Stages of Personality
8. Importance of motivation
9. Types of morale
10. What is Organizational Development?

SECTION B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Describe the learning theories in details.

Or

12. Explain the factors that influence personality.
13. Explain the different styles of leadership.

Or

14. What is motivation? Explain the importance of motivation.

15. What is group? Explain the theories of group dynamics.

Or

16. Define group decision making process.

17. Explain organizational Development. Discuss the process of organizational development.

Or

18. What are the factors contributing to organizational change?

19. What are the differences between Organizational change and climate?

Or

20. Explain the indicators of organizational effectiveness.

3 MN 20302

THREE YEAR U.G. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Human Resource Management (Minor)

CHANGE MANAGEMENT

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

1. Define organizational change and explain its importance.
2. What are the main drivers of organizational change?
3. Explain the difference between planned and unplanned change.
4. Discuss the role of leadership in managing change.
5. What are the key steps involved in implementing change successfully?
6. Describe how resistance to change can be managed effectively.
7. Explain the relationship between HR and technological change in organizations.
8. What are the challenges associated with integrating new technologies into existing systems?
9. Define organizational development and outline its key objectives.
10. Discuss the role of feedback in the organizational development process.

SECTION B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Discuss the different models of organizational change and their applications.

Or

12. Explain the impact of change on organizational culture and employee behavior.
13. Describe the various types of organizational change with examples.

Or

14. Explain the differences between incremental and transformational change.

15. Outline the strategies for implementing change in an organization.

Or

16. Discuss the importance of communication and training in the change implementation process.

17. Examine the role of HR in facilitating technological change in an organization.

Or

18. Discuss how technological advancements affect the roles and responsibilities of HR professionals.

19. Explain the concept of organizational development and the phases involved.

Or

20. Discuss the significance of continuous improvement in organizational development practices.

3 MN 20302

THREE YEAR U.G. (CBCS) DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Human Resource Management (Minor)

CHANGE MANAGEMENT

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

1. Define organizational change and explain its importance.
2. What are the main drivers of organizational change?
3. Explain the difference between planned and unplanned change.
4. Discuss the role of leadership in managing change.
5. What are the key steps involved in implementing change successfully?
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8. What are the challenges associated with integrating new technologies into existing systems?
9. Define organizational development and outline its key objectives.
10. Discuss the role of feedback in the organizational development process.

SECTION B — (5 × 10 = 50 marks)

Answer ALL of the following questions.

11. Discuss the different models of organizational change and their applications.

Or

12. Explain the impact of change on organizational culture and employee behavior.
13. Describe the various types of organizational change with examples.

Or

14. Explain the differences between incremental and transformational change.

15. Outline the strategies for implementing change in an organization.

Or

16. Discuss the importance of communication and training in the change implementation process.

17. Examine the role of HR in facilitating technological change in an organization.

Or

18. Discuss how technological advancements affect the roles and responsibilities of HR professionals.

19. Explain the concept of organizational development and the phases involved.

Or

20. Discuss the significance of continuous improvement in organizational development practices.

3 MN 61002

THREE YEAR B.A./B.Sc./B.Com. (CBCS) DEGREE EXAMINATION,
NOVEMBER/DECEMBER 2024.

THIRD SEMESTER

Statistics (Minor)

STATISTICAL METHODS

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. Explain about Principle of Least square method.
2. Discuss About Scattered Diagram.
3. Define Rank correlation coefficient and write formula for with and without ties.
4. Explain Different types of Correlation.
5. Explain about Correlation Ratio.
6. Discuss about Exponential curves.
7. What is Regression and types of Regression?
8. Define Class frequencies and Ultimate Class frequencies.
9. What are the uses of Rank correlation?
10. Write a short note on Regression Coefficients.

SECTION B — (5 × 10 = 50 marks)

Answer the following questions.

11. Write the Procedure for fitting of Straight line by using Principle of Least squares.

Or

12. Explain the fitting of Second degree parabola by the Principle of Least squares.

13. Define Karl Pearson Correlation Coefficient and write its Properties.

Or

14. Calculate Rank Correlation for the data.

X	50	70	84	96	98	61	70	97	92
Y	60	60	97	90	88	55	92	60	90

15. Explain (a) Coefficient of Determination (b) Probable error

Or

16. Explain Multiple and Partial Correlation Coefficient.

17. Find the Line of Regression of Y on X.

X	1	2	3	4	5	8	10
Y	9	8	100	12	14	16	15

Or

18. Define Regression Coefficients and State and prove any two properties of Regression Coefficients.

19. Explain

(a) Independence of Attributes

(b) Association of Attributes

Or

20. Show that $Q = \frac{2Y}{1+Y^2}$.

SC 311

U.G. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024.

THIRD SEMESTER
PROJECT MANAGEMENT

Time : Two hours

Maximum : 50 marks

(No additional sheet will be supplied)

Answer any FIVE of the following questions.

Each question carries 10 marks.

(5 × 10 = 50)

1. Define project scope management. How does defining the scope influence the outcome of a project?
 2. Explain the concept of Work Breakdown Structure (WBS). How does WBS contribute to effective project management?
 3. Discuss the importance of project scheduling. What are the major challenges in scheduling large-scale projects, and how can they be addressed?
 4. Describe the role of a project manager. What essential skills should a project manager possess to manage projects effectively?
 5. What is project monitoring and control? Explain how it helps in ensuring project alignment with planned objectives.
 6. Differentiate between Agile and Waterfall project management methodologies. Highlight the advantages and limitations of each.
 7. Explain the significance of quality management in project execution. What tools and techniques are used to ensure quality in projects?
 8. Discuss the process of resource allocation in project management. What are the potential issues in resource management, and how can they be resolved?
 9. What is earned value management (EVM)? Explain how EVM can be used to assess project performance and progress.
 10. Discuss the concept of change management in projects. How does an effective change management plan contribute to the success of a project?
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