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II Semester B.A./B.Sc. (NEP) Degree Examination August/September - 2024

GEOGRAPHY**Introduction to Climatology (DSC)****(Repeater/Regular)****Time : 2 Hours****Maximum Marks : 60****Instructions to Candidates:**

- 1) All Sections are compulsory.
ಎಲ್ಲಾ ವಿಭಾಗಗಳು ಕಡ್ಡಾಯವಾಗಿವೆ.
- 2) Draw neat maps and diagrams wherever necessary.
ಅವಶ್ಯವಿದ್ದಲ್ಲಿ ಅಂದವಾದ ನಕ್ಷೆ ಮತ್ತು ಆಕೃತಿಗಳನ್ನು ರಚಿಸಿರಿ.

SECTION-A

ವಿಭಾಗ - ಅ

Answer any Ten of the following, each not exceeding 50 words. (10×2=20)

ಪ್ರತಿಯೊಂದಕ್ಕೆ 50 ಶಬ್ದಗಳಿಗೆ ಮೀರದಂತೆ, ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಬೇಕಾದ ಹತ್ತಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.

1. Meteorology

ಹವಾಮಾನಶಾಸ್ತ್ರ

2. Troposphere

ಪರಿವರ್ತನ ಮಂಡಲ

3. Major atmospheric gases

ಪ್ರಮುಖ ವಾಯುಮಂಡಲದ ಅನಿಲಗಳು

4. Insolation

ಸೌರಶಾಖೆ

5. Convection

ಸಂವಹನ

6. Solar radiation

ಸೌರ ವಿಕಿರಣ

7. Trade winds

ವ್ಯಾಪಾರಿ ಗಾಳಿಗಳು

[P.T.O.]



8. Pressure gradient

ಒತ್ತಡದ ಪ್ರವಣತೆ

9. Air masses

ವಾಯು ರಾಶಿಗಳು

10. Specific humidity

ವಿಶಿಷ್ಟ ಆದ್ರ್ವತೆ

11. Evaporation

ಭಾಷ್ಪೀಭವನ

12. Floods.

ಪ್ರವಾಹಗಳು

SECTION-B

ವಿಭಾಗ - ಬ

Answer any Four of the following, each not exceeding 200 words. (4×5=20)

ಪ್ರತಿಯೊಂದಕ್ಕೆ 200 ಶಬ್ದಗಳಿಗೆ ಮೀರದಂತೆ, ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಬೇಕಾದ ನಾಲ್ಕಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.

13. Write about the scope of climatology.

ವಾಯುಗುಣಶಾಸ್ತ್ರದ ವ್ಯಾಪ್ತಿಯನ್ನು ಕುರಿತು ಬರೆಯಿರಿ.

14. Explain about the composition of atmosphere.

ವಾಯುಮಂಡಲದ ಸಂಯೋಜನೆ ಕುರಿತು ವಿವರಿಸಿರಿ.

15. Write about the vertical distribution of temperature in atmosphere.

ವಾಯುಮಂಡಲದಲ್ಲಿ ಉದ್ದಕ್ಕೂ ಉಷ್ಣಾಂಶದ ಹಂಚಿಕೆಯನ್ನು ಕುರಿತು ಬರೆಯಿರಿ.

16. Explain about the horizontal distribution of atmospheric pressure.

ವಾಯುಮಂಡಲ ಒತ್ತಡದ ಸಮತಲ ಹಂಚಿಕೆಯನ್ನು ಕುರಿತು ವಿವರಿಸಿರಿ.

17. Describe about the global energy budget.

ಜಾಗತಿಕ ಉಷ್ಣಾಂಶದ (ಶಕ್ತಿಯ) ಆಯವ್ಯಯ ಕುರಿತು ವಿವರಿಸಿರಿ.

18. Explain about the hydrological cycle.

ಜಲಚಕ್ರವನ್ನು ಕುರಿತು ವಿವರಿಸಿರಿ.



SECTION-C

ವಿಭಾಗ - ಕ

Answer any Two of the following, each not exceeding 500 words. (2×10=20)

ಪ್ರತಿಯೊಂದಕ್ಕೆ 500 ಶಬ್ದಗಳಿಗೆ ಮೀರದಂತೆ, ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಬೇಕಾದ ಎರಡಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.

19. Explain about the structure of atmosphere.

ವಾಯುಮಂಡಲದ ರಚನೆಯನ್ನು ಕುರಿತು ವಿವರಿಸಿರಿ.

20. Describe about the horizontal distribution of temperature in atmosphere.

ವಾಯುಮಂಡಲದಲ್ಲಿ ಸಮತಲ ಉಷ್ಣಾಂಶದ ಹಂಚಿಕೆಯನ್ನು ಕುರಿತು ವಿವರಿಸಿರಿ.

21. Explain about the world pressure belts.

ಜಾಗತಿಕ ಒತ್ತಡ ಪಟ್ಟಿಗಳನ್ನು ಕುರಿತು ವಿವರಿಸಿರಿ.

22. Explain the sources and influencing factors on atmospheric humidity.

ವಾಯುಮಂಡಲದ ಆರ್ದ್ರತೆಯ ಮೂಲಗಳು ಮತ್ತು ಪ್ರಭಾವ ಬೀರುವ ಅಂಶಗಳನ್ನು ಕುರಿತು ವಿವರಿಸಿರಿ.

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II Semester B.Sc. (NEP) Degree Examination, August/September - 2024
CHEMISTRY (DSC)
(Regular/Repeater)

Time : 2 Hours

Maximum Marks : 60

Instructions to Candidates :

1. All questions are compulsory.
2. Draw neat diagrams and give equation wherever necessary.

Answer any **SIX** of the following questions.

(6×2=12)

1.
 - a) Write Born-Land'e equation and mention the terms in it.
 - b) Mention any two characteristics of bonding-molecular orbitals.
 - c) Compare the acidic strength of acetic acid and propionic acid and give the reason.
 - d) What is stereoisomerism?
 - e) Define Unit Cell.
 - f) Mention the elements of symmetry in crystals.
 - g) What is zero order reaction? Give an example.
 - h) Write the effect of temperature on viscosity of liquid.

Answer any **THREE** of the following questions.

(3×4=12)

2.
 - a) What is ionic bond? Write the general characteristics of ionic compounds.
 - b) Explain the determination of lattice energy of NaCl using Born-Haber cycle.
 - c) Explain the hybridization and geometry of PCl_5 molecule.
 - d) Give the molecular orbital energy level diagram for N_2 Molecule, Write its molecular orbital configuration and magnetic property.

Answer any **THREE** of the following questions.

(3×4=12)

3.
 - a) Explain geometrical isomerism with examples.
 - b) Discuss the rules of assigning R and S notations for compounds with examples.
 - c) Explain the following
 - i) Enantiomerism
 - ii) Diastereomerism.
 - d) Assign E and Z notations for 2-Butene as per the rules.

[P.T.O.]



4. Answer any **THREE** of the following questions. (3×4=12)
- a) What are liquid crystals? Give their classification with example.
 - b) Derive the Bragg's equation $n\lambda = 2d \sin \theta$.
 - c) Series of planes in a crystal produce a first order reflection from x-rays of 0.59\AA wavelength at an angle of 23.6° . Calculate the inter planar distance between the two successive crystal planes.
 - d) Write about the following
 - i) Space lattice
 - ii) Law of rational indices.
5. Answer any **THREE** of the following questions. (3×4=12)
- a) Derive integrated rate equation for second order reaction when concentrations of reactants are equal ($a=b$).
 - b) Explain the half-life period method of determination of order of reaction.
 - c) Explain the determination of surface tension of a liquid by drop number method using stalagmometer.
 - d) Write about the following
 - i) Post-Precipitation
 - ii) Structure of DMG and its use in inorganic analysis.
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II Semester B.A./B.Com./B.Sc. Degree Examination, August/September - 2024

ECONOMICS**Contemporary Indian Economy - (OEC)**
(Repeater/Regular)

Time : 2 Hours

Maximum Marks : 60

Instructions to Candidates:

1. Answer All the Three Sections.
2. Answer to Section-A should be written at **One place** in sequence.
3. Draw graphs/tables if necessary.

SECTION - A

ವಿಭಾಗ - ಅ

Answer any TEN of the following questions.

(10×1=10)

ಕೆಳಗಿನ ಬೇಕಾದ ಹತ್ತು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

1. a) What do you mean by Globalization ?
ಜಾಗತೀಕರಣ ಎಂದರೇನು ?
- b) What is demographic dividend ?
ಜನಸಂಖ್ಯಾ ಲಾಭಾಂಶ ಎಂದರೇನು ?
- c) What is urbanization ?
ನಗರೀಕರಣ ಎಂದರೇನು ?
- d) State any two objectives of Atma Nirbhar Bharat.
ಆತ್ಮ ನಿರ್ಭರ ಭಾರತದ ಎರಡು ಉದ್ದೇಶಗಳನ್ನು ಹೇಳಿರಿ.
- e) What do you mean by disinvestment ?
ಹೂಡಿಕೆ ಹಿಂತೆಗೆತ ಎಂದರೇನು ?
- f) State any two defects of Indian Money Market.
ಭಾರತೀಯ ಹಣದ ಮಾರುಕಟ್ಟೆಯ ಯಾವುದಾದರೂ ಎರಡು ದೋಷಗಳನ್ನು ಹೆಸರಿಸಿರಿ.
- g) State any two functions of SEBI.
SEBI ಯ ಯಾವುದಾದರೂ ಎರಡು ಕಾರ್ಯಗಳನ್ನು ಹೇಳಿರಿ.

[P.T.O.]





- h) What is repo rate ?
ರೆಪೋ ದರ ಎಂದರೇನು ?
- i) What do you mean by debt management ?
ಸಾಲದ ನಿರ್ವಹಣೆ ಎಂದರೇನು ?
- j) Which country is the major trading partner of India ?
ಯಾವ ದೇಶವು ಭಾರತದ ವಿದೇಶಿ ವ್ಯಾಪಾರದ ಮುಖ್ಯ ಭಾಗೀದಾರ ದೇಶವಾಗಿದೆ ?
- k) What do you mean by Bap crisis ?
ಸಂದಾಯ ಬಾಕಿಯ ಮುಗ್ಗಟ್ಟು ಎಂದರೇನು ?
- l) What is foreign institutional investment ?
ವಿದೇಶಿ ಸಾಂಸ್ಥಿಕ ಹೂಡಿಕೆ ಎಂದರೇನು ?

SECTION - B**ವಿಭಾಗ - ಬ****Answer any FOUR of the following questions.****(4×5=20)**

ಕೆಳಗಿನ ಬೇಕಾದ ನಾಲ್ಕು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

2. Explain how can India reap demographic dividend?
ಭಾರತ ಜನಸಂಖ್ಯಾ ಲಾಭಾಂಶವನ್ನು ಹೇಗೆ ಪಡೆಯಬಹುದೆಂಬುದನ್ನು ವಿವರಿಸಿರಿ.
3. Discuss the importance of informed sector in Indian Economy.
ಭಾರತದ ಅರ್ಥವ್ಯವಸ್ಥೆಯಲ್ಲಿ ಅನೌಪಚಾರಿಕ ವಲಯದ ಮಹತ್ವದ ಕುರಿತು ಚರ್ಚಿಸಿರಿ.
4. Evaluate public sector reforms in India.
ಸಾರ್ವಜನಿಕ ವಲಯದ ಸುಧಾರಣೆಗಳ ಬಗ್ಗೆ ವಿಮರ್ಶಿಸಿರಿ.
5. Explain the performance of MSME.
MSME ವಲಯದ ಸಾಧನೆಗಳ ಕುರಿತು ವಿವರಿಸಿರಿ.
6. Explain balance of payments position of India since 1991.
ಭಾರತದ ವಿದೇಶಿ ವ್ಯಾಪಾರದ 1991 ರ ನಂತರದ ಸಂದಾಯ ಬಾಕಿಯ ಸ್ಥಿತಿಗತಿಯ ಬಗ್ಗೆ ವಿವರಿಸಿರಿ.
7. Write a note on FDI in India.
ಭಾರತದಲ್ಲಿ ವಿದೇಶಿ ನೇರ ಹೂಡಿಕೆಯ ಬಗ್ಗೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.



SECTION - C

ವಿಭಾಗ - ಕ

Answer any THREE of the following questions.

(3×10=30)

ಕೆಳಗಿನ ಬೇಕಾದ ಮೂರು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

8. Discuss impact of LPG paly on Indian economy.
ಭಾರತದ ಅರ್ಥವ್ಯವಸ್ಥೆಯ ಮೇಲೆ LPG ನೀತಿಯ ಪರಿಣಾಮಗಳ ಕುರಿತು ಚರ್ಚಿಸಿರಿ.
9. Evaluate National population policy of 2000.
ರಾಷ್ಟ್ರೀಯ ಜನಸಂಖ್ಯಾ ನೀತಿ - 2000 ಇದನ್ನು ವಿಮರ್ಶಿಸಿ.
10. Explain changing role of RBI in Indian Economy.
ಭಾರತದ ಅರ್ಥವ್ಯವಸ್ಥೆಯಲ್ಲಿ ಭಾರತೀಯ ರಿಜರ್ವ್ ಬ್ಯಾಂಕಿನ ಬದಲಾಗುತ್ತಿರುವ ಪಾತ್ರದ ಕುರಿತು ವಿವರಿಸಿ.
11. Explain the recommendations of 15th finance commission.
15 ನೆಯ ಹಣಕಾಸಿನ ಆಯೋಗದ ಶಿಫಾರಸುಗಳನ್ನು ವಿವರಿಸಿರಿ.
12. Evaluate the monetary policy of RBI.
ಭಾರತೀಯ ರಿಜರ್ವ್ ಬ್ಯಾಂಕಿನ ಹಣಕಾಸಿನ ನೀತಿಯ ಕುರಿತು ವಿಮರ್ಶಿಸಿ.

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BSC II Semester Examination, Aug/Sept -2024

Subject: ಅವಶ್ಯಕ ಕನ್ನಡ (AECC-2)

Duration of Paper: 2 Hrs.

ತೆರೆದ ಮನ

Maximum Marks :60

Instruction to the Candidate: ಭಾಷೆ ಮತ್ತು ಬರಹದ ಶುದ್ಧಿಗೆ ಗಮನ ಕೊಡಲಾಗುವುದು.

I) ಜೀವನಕಲೆ ಚೌಪದಿಯಲ್ಲಿ ಬದುಕಿನ ಸ್ವಾರಸ್ಯವಿದೆ ಚರ್ಚಿಸಿ. (10m)

ಅಥವಾ

ಚೈತನ್ಯದ ಪೂಜೆ ಕವನದ ಆಶಯವನ್ನು ನಿರೂಪಿಸಿ.

II) ಧನಿಯರ ಸತ್ಯನಾರಾಯಣ ಕಥೆಯಲ್ಲಿ ಶೋಷಣೆಯಿದೆ ವಿವರಿಸಿ. (10m)

ಅಥವಾ

ಅಕ್ಕ ಕಂಡ ಕನಸುಗಳ ವಿಶೇಷತೆಗಳನ್ನು ನಿರೂಪಿಸಿರಿ.

III) ಧಾರವಾಡದಲ್ಲಿ ಮಳೆಗಾಲ ಕವಿತೆಯಲ್ಲಿ ಮಳೆಯ ವ್ಯಭವವಿದೆ ವಿವರಿಸಿ. (10m)

ಅಥವಾ

ನಾವು ಪುಟ್ಟಮಳೆ ನೋಡಿದ್ದು ಕವನದ ಸ್ವಾರಸ್ಯ ನಿರೂಪಿಸಿ.

IV) ಮಹಿಳೆ ಮತ್ತು ವಿಜ್ಞಾನ ಪಾಠದ ಆಶಯವನ್ನು ಬರೆಯಿರಿ. (10m)

ಅಥವಾ

ನ್ಯಾನೋ ತಂತ್ರಜ್ಞಾನದ ವಿಶೇಷತೆಗಳನ್ನು ವಿವರಿಸಿ.

V ಬೇಕಾದ ಎರಡಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ. 2X5=10

1. ತೆರೆದ ಮನ
2. ಕಲ್ಕಿ
3. ಬರ
4. ವಿಗ್ರಹಗಳು

VI ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿ 10X1=10

1. ತೆರೆದ ಮನ ಸಂಪಾದಿಸಿದವರು ಯಾರು?
2. ಕೂಲಿ ಮಾಡುವವಳು ಮುಂದೆ ಏನಾದಳು?
3. ಪಾಟೀಲ ಪುಟ್ಟಪ್ಪ ಯಾವ ಪತ್ರಿಕೆಯ ಸಂಪಾದಕರು?
4. ಕುವೆಂಪು ಅವರ ಮಹಾಕಾವ್ಯ ಯಾವುದು?
5. ಧನಿಯರ ಸತ್ಯನಾರಾಯಣ ಬರೆದವರು ಯಾರು?
6. ಮಿಸ್ಸೆಲ್ ಮ್ಯಾನ್ ಆಫ್ ಇಂಡಿಯಾ ಅಂದರೆ ಯಾರು?
7. ಧಾರವಾಡದಲ್ಲಿ ಮಳೆಗಾಲ ಯಾರು ಬರೆದ ಕವಿತೆ?
8. ಕಾಫಿ ಕುರಿತಾಗಿ ಚರ್ಚಿಸಿದವರಾರು?
9. ನೇಮಿಚಂದ್ರ ಯಾರು?
10. ಲಕ್ಷ್ಮಣರಾವ್ ಬರೆದ ವೈಜ್ಞಾನಿಕ ಲೇಖನ ಯಾವುದು?

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B.SC II Semester Examination, Aug/Sept -2024
Subject: Chemistry-II (DSC)

Maximum Marks :60

Duration of Paper: 2 Hrs.

Instruction to the Candidate: 1) All questions are compulsory
 2) Draw neat diagrams and give equations wherever necessary

6x2=12

1 Answer any six questions.

- State Fajan's rule.
- Mention two general characteristics of ionic compounds.
- Compare acid strength of acetic acid and benzoic acid and give reason.
- Write the Eclipsed and staggered conformations (Newmann) of ethane.
- Define space lattice.
- Give two applications of liquid crystals.
- Mention the
 - Variation of viscosity with temperature
 - Unit of viscosity
- Calculate the molar refraction of Benzene if its specific refraction is 0.335
 (Mol. Wt. of Benzene = 78)

2 Answer any three questions.

- Calculate the lattice energy of NaCl using the Born-Haber cycle from following data.
 Heat of sublimation of Na(s) = 110 kJ/mol
 Dissociation energy of Cl₂ = 228 kJ/mol
 Ionization energy of Na (g) = 490 kJ/mol
 Electron affinity for Cl (g) = -351 kJ/mol
 Heat of formation of NaCl = -414 kJ/mol
- Discuss the hybridization and geometry of PCl₅ Molecule
- What are bonding molecular orbitals? Write their characteristics.
- Give the molecular orbital energy level diagram of N₂ molecule and write its molecular orbital configuration and magnetic property.

3 Answer any three questions

3x4=12

- Write a note on geometrical isomerism.
- Assign E and Z notations for 2-butene as per the rules.
- Write about the following
 - Enantiomers
 - Diastereomers
- Discuss the rules of assigning R and S notations for compounds with examples.

4 Answer any three questions

3x4=12

- What are liquid crystals? Give their classification.

b) Write about the following.

- i) Plane of symmetry of crystal.
- ii) Law of constancy of interfacial angles.

c) Derive the Bragg's equation.

d) Calculate the Interplanar distance in a crystal in which a series of planes produce a first order reflection from X-rays of wavelength 1.539 \AA at an angle of 22.5°

5 Answer any three questions

3x4=12

- a) Derive the integrated rate equation for second order reaction with reactions of equal concentration.
- b) The Half-life period for a reaction at particular concentration is 50 minutes when the concentration is doubled the half-life period becomes 100 minutes. Calculate the order of reaction.
- c) Elucidate the structure of Benzoquinone by parachor values.
- d) Mention the steps involved in gravimetric analysis and write structure of DMG, its use in inorganic analysis.

Reg No

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B.Sc. II Semester Examination, Aug/Sept-2024
Subject: Foundations of Sociological Theory

Duration of Paper: 2 Hrs.

Maximum Marks :60

Instruction to the Candidate: Answer All the section.

ಎಲ್ಲಾ ಭಾಗಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

Section - (ಭಾಗ - ಅ)

Write any five of the following.

(5x2=10)

ಈ ಕೆಳಗಿನ ಬೇಕಾದ ಐದುಕ್ಕೆ ಉತ್ತರಿಸಿರಿ..

- 1) What are Auguste comte's organic and In-organic sciences?
ಅಗಪ್ಪ ಕೋಮ್ಟೆ ಅವರ ಸಾವಯವ ಮತ್ತು ನಿರವಯವ ವಿಜ್ಞಾನಗಳು ಯಾವವು?
- 2) What is Materialism according to Karl Marx?
ಕಾರ್ಲಮಾರ್ಕ್ಸ್ ಅವರ ಪ್ರಕಾರ, ಭೌತಿಕವಾದ ಎಂದರೇನು?
- 4) Mention two classes of Industrial society.
ಔದ್ಯೋಗಿಕ ಸಮಾಜದ ಎರಡು ಸಾಮಾಜಿಕ ವರ್ಗಗಳನ್ನು ತಿಳಿಸಿ.
- 5) Define Formal Sociology.
ಔಪಚಾರಿಕ ಸಮಾಜಶಾಸ್ತ್ರವನ್ನು ವ್ಯಾಖ್ಯಾನಿಸಿರಿ.
- 6) Define Emile Durkheim's 'Suicide'
ಇಮೈಲ್ ಡರ್ಖೈಮ್ ಅವರ 'ಆತ್ಮಹತ್ಯೆ' ಪರಿಕಲ್ಪನೆಯನ್ನು ವ್ಯಾಖ್ಯಾನಿಸಿರಿ.
- 7) What is Bureaucracy?
ನೌಕರಶಾಹಿ ವ್ಯವಸ್ಥೆ ಎಂದರೇನು?

Part - B
(ಭಾಗ - ಬಿ)

Answer any Four of the following.

ಈ ಕೆಳಗಿನ ಬೇಕಾದ ನಾಲ್ಕುಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.

(4x5=20)

- 8) Discuss Aguste Comte's the theory of Hierarchy of Sciences.
ಅಗಪ್ಪ ಕೋಮ್ಟೆ ಅವರ 'ವಿಜ್ಞಾನಗಳ ಏಣಿಶ್ರೇಣಿ' ಸಿದ್ಧಾಂತವನ್ನು ಚರ್ಚಿಸಿರಿ.
- 9) Explain Herbert Spencer's the theory of Organic Analogy
ಹರ್ಬರ್ಟ್ ಸ್ಪೆನ್ಸರ್ ಅವರ ಜೈವಿಕ ಸಾದೃಶ್ಯ ಸಿದ್ಧಾಂತ' ವನ್ನು ವಿವರಿಸಿರಿ.
- 10) Analyze Karl Marx's, Theory of 'Alienation'
ಕಾರ್ಲ ಮಾರ್ಕ್ಸ್ ಅವರ, 'ಪರಕೀಯ ಪ್ರಜ್ಞೆ' ಸಿದ್ಧಾಂತವನ್ನು ವಿಶ್ಲೇಷಿಸಿ.
- 11) Illustrate Emile Durkheim's Sociology of Religion.
ಇಮೈಲ್ ಡರ್ಖೈಮ್ ಅವರ, 'ಧಾರ್ಮಿಕ ಸಮಾಜಶಾಸ್ತ್ರ' ವನ್ನು ವಿವರಿಸಿರಿ.
- 12) Explain Max Weber's Ideal types.
ಮ್ಯಾಕ್ಸ್ ವೆಬರ್ ಅವರ ಆದರ್ಶ ಪ್ರರೂಪಗಳನ್ನು ವಿವರಿಸಿ.
- 13) Write a note on 'Social Action'.
'ಸಾಮಾಜಿಕ ಕ್ರಿಯೆ' ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

Section -C (ಭಾಗ - ಕ)

Write any three of the following.

(3x10=30)

ಈ ಕೆಳಗಿನ ಬೇಕಾದ ಮೂರಕ್ಕೆ ಬರೆಯಿರಿ.

- 14 Discuss Auguste comte's law of three stages.
ಅಗಸ್ಟ್ ಕೋಮ್ಟ್ ಅವರ ಮೂರು ಹಂತಗಳ ಸೂತ್ರವನ್ನು ಚರ್ಚಿಸಿರಿ.
- 15 Explain Herbert spencer's types of society.
ಹರ್ಬರ್ಟ್ ಸ್ಪೆನ್ಸರ್ ಅವರ 'ಸಮಾಜದ ಪ್ರಕಾರಗಳನ್ನು ವಿವರಿಸಿ.
- 16 Illustrate Karl Marx's theory of 'Class struggle'.
ಕಾರ್ಲ್ ಮಾರ್ಕ್ಸ್ ಅವರ ವರ್ಗ ಸಂಘರ್ಷ ಸಿದ್ಧಾಂತವನ್ನು ವಿವರಿಸಿ.
- 17 Explain George Simmel's the theory of conflict.
ಜಾರ್ಜ್ ಸಿಮೆಲ್ ಅವರ ಸಂಘರ್ಷ ಸಿದ್ಧಾಂತವನ್ನು ವಿವರಿಸಿ.
- 18 Analyse Emile Durkeim's Social facts.
ಇಮ್ಮೆಲ್ ಡರ್ಬೀಮ್ ಅವರ ಸಾಮಾಜಿಕ ಸತ್ಯಸಂಗತಿಗಳನ್ನು ವಿಶ್ಲೇಷಿಸಿರಿ.

B.SC II Semester Examination, Aug/Sept-2024
Subject: Algebra, H.O. C

Duration of Paper: 2 Hrs.

Maximum Marks :60

Instruction to the Candidate: 1) Answer any six from Q.NO: 1

2) Answer any three from Q.NO: 2,3,4,5
in following space:

1) Answer any six of the following questions

- Define supremum and infimum of a set.
- State Bolzano Weierstrass theorem.
- Define center of a group.
- Define left coset and right coset a group.
- If $u = x^2y + y^2x$ then find $\frac{\partial u}{\partial x}$ and $\frac{\partial u}{\partial y}$
- If $z = x^2y + y^2x$, $x = at^2$, $y = 2at$ then find $\frac{dz}{dt}$

(6x2=12)

g) Evaluate $\int_0^1 \int_0^2 xy(x+y) \, dx \, dy$.

h) Evaluate $\int_0^1 \int_0^1 \int_1^2 x^2 y z \, dx \, dy \, dz$

2 Answer any three of the following.

- Prove that the unit interval $[0, 1]$ is uncountable.
- State and prove Archimedean property of real numbers.
- Prove that union of two open sets is an open set.
- Prove that every subset of a countable set is countable.

(3x4=12)

3 Answer any three of the following.

- Prove that the set $G = \{a + b\sqrt{2}/a, b \in \mathbb{Z}\}$ is an abelian group under addition.
- Find all left and right cosets of $H = \{0, 4, 8\}$ under $\{z_{12}, \oplus_{12}\}$.
- State and Prove Lagrange's theorem of a finite group
- Prove that every subgroup of a cyclic group is cyclic.

(3x4=12)

4 Answer any three of the following.

- a) If $u = f(x + ay) + \phi(x - ay)$, then show that $\frac{\partial^2 u}{\partial y^2} = a^2 \frac{\partial^2 u}{\partial x^2}$
- b) State and prove Euler's theorem for homogeneous function of degree n
- c) With usual notation of prove that $\frac{\partial(u,v)}{\partial(r,\theta)} = \frac{\partial(u,v)}{\partial(x,y)} \times \frac{\partial(x,y)}{\partial(r,\theta)}$
- d) Find the extreme values of $y^2 + 4xy + 3x^2 + x^3$.

(3x4=12)

5) Answer any three of the following.

- a) Evaluate $\int_R xy(x+y) dx dy$ between the parabola $y=x^2$ and the line $y=x$
 b) Evaluate $\iiint_V \frac{dx dy dz}{x^2+y^2+z^2}$ throughout the volume V of the sphere $x^2+y^2+z^2 = a^2$
 c) Find the area of the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ using double in integration
 d) State and prove Leibnitz theorem of differentiation under the integral sign.

(3x4=12)

Reg No

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I/II SEMESTER B.Sc/BA/BBA/BSW/B.Com/BCA Degree Examination

Aug/Sept -2024

(Regular/Repeater)

Subject: Environmental Studies

Duration of Paper: 1 Hrs.

Maximum Marks :25

Instructions to Candidates

1. Check for complete printing of 25 questions.
2. Darken the appropriate circle with the ball pen.
3. Damaging/Overwriting using whitener on the OMR sheet is strictly prohibited.
4. Candidates should ensure that the invigilator has verified all the entries and affixed his/her signature in the space provided on the OMR Sheet.

- 1) The science that deals with the relationship of various organisms with their environment is

a. Geography b. Economics c. Ecology d. Geology

ವಿವಿಧ ಜೀವಿಗಳ ಪರಿಸರದೊಂದಿಗೆ ಸಂಬಂಧವನ್ನು ತಿಳಿಸುವ ವಿಜ್ಞಾನ

a. ಭೂಗೋಳಶಾಸ್ತ್ರ b. ಅರ್ಥಶಾಸ್ತ್ರ c. ಪರಿಸರ ವಿಜ್ಞಾನ d. ಭೂವಿಜ್ಞಾನ

- 2) Who discovered the word 'ecosystem'?

a. Odum b. Elton c. Arthur Tansley d. Clements

ಪರಿಸರ ವ್ಯವಸ್ಥೆ ಎಂಬ ಪದವನ್ನು ಕಂಡು ಹಿಡಿದವರು ಯಾರು?

a. ಓಡಮ್ b. ಎಲ್ಟನ್ c. ಅರ್ಥರ್ ಟಾನ್ಸಲಿ d. ಕ್ಲೆಮೆಂಟ್ಸ್

- 3) How many numbers of biodiversity hotspots are there in the world?

a) 36 b) 32 c) 28 d) 12

ಪ್ರಪಂಚದಲ್ಲಿ ಒಟ್ಟು ಎಷ್ಟು ಜೀವವೈವಿಧ್ಯ ಹಾಟ್ ಸ್ಪಾಟ್ ಗಳಿವೆ?

a) 36 b) 32 c) 28 d) 12

- 4) The organisms that live on organic materials and absorb molecules by digesting enzymes are called

a) Decomposers b) Producers c) Carnivores d) Omnivores

ಸಾಯವಯ ವಸ್ತುಗಳ ಮೇಲೆ ವಾಸಿಸುವ ಮತ್ತು ಕಿಣ್ವಗಳನ್ನು ಜೀರ್ಣಿಸುವ ಮೂಲಕ ಸಾಯವಯ ಅಣುಗಳನ್ನು ಹೀರಿಕೊಳ್ಳುವ ಜೀವಿಗಳನ್ನು ಎನೆಂದು ಕರೆಯಲಾಗುತ್ತದೆ?

a) ವಿಭಜಕಗಳು b) ಉತ್ಪಾದಕಗಳು c) ಮಾಂಸಾಹಾರಿಗಳು d) ಸರ್ವಭಕ್ಷಕ

- 5) A poisonous gas given out of vehicle exhaust is

a) Carbon monoxide b) Ethane c) Methane d) Carbon dioxide

ವಾಹನದ ಹೊರಸೂಸುವಿಕೆಯಿಂದ ಹೊರಬರುವ ವಿಷ ಅನಿಲ

a) ಕಾರ್ಬನ್ ಮಾನಾಕ್ಸೈಡ್ b) ಇಥೇನ್ c) ಮಿಥೇನ್ d) ಕಾರ್ಬನ್ ಡೈಆಕ್ಸೈಡ್

- 6) Ozone day is observed on

a) 3rd January b) 16th September c) 10th November d) 26th March

ಓರೋನ್ ದಿನವನ್ನು ಯಾವಾಗ ಆಚರಿಸಲಾಗುತ್ತದೆ?

- a) ಜನವರಿ 3 b) ಸೆಪ್ಟೆಂಬರ್ 16 c) ನವೆಂಬರ್ 10 d) ಮಾರ್ಚ್ 26

7) Which is a list of renewable resources?

- a) Petroleum, geothermal, wind b) Biomass, geothermal, hydropower
c) Natural gas, wind, biomass d) hydropower, solar, wind energy

ನವೀಕರಿಸಬಹುದಾದ ಸಂಪನ್ಮೂಲಗಳ ಪಟ್ಟಿ ಯಾವುದು?

- a) ಪೆಟ್ರೋಲಿಯಂ, ಭಾಶಾಖ, ಗಾಳಿ b) ಜೀವರಾಶಿ, ಭಾಶಾಖ, ಜಲವಿದ್ಯುತ್
c) ನೈಸರ್ಗಿಕ ಅನಿಲ, ಗಾಳಿ, ಜೀವರಾಶಿ d) ಜಲವಿದ್ಯುತ್, ಸೌರಶಕ್ತಿ, ಪವನ ಶಕ್ತಿ

8) In which year the Indian Wildlife (protection) Act was implemented.

- a) 1971 b) 1970 c) 1972 d) 1974

ಭಾರತೀಯ ವನ್ಯಜೀವಿ(ರಕ್ಷಣೆ) ಕಾಯಿದೆ ಯಾವ ವರ್ಷದಲ್ಲಿ ಜಾರಿಗೆ ತರಲಾಯಿತು?

- a) 1971 b) 1970 c) 1972 d) 1974

9) Algal bloom results in

- a) Global warming b) Eutrophication
c) Biomagnification d) Salinization

ಆಲ್ಗಲ್ ಬ್ಲೂಮ್ ನ ಪರಿಣಾಮಗಳು

- a) ಜಾಗತಿಕ ತಾಪಮಾನ b) ಯುಟ್ರೋಫಿಕೇಶನ್
c) ಬಯೋಮಾಗ್ನಿಫಿಕೇಶನ್ d) ಲವಣಾಂಶ

10) A disease not caused by water pollution is

- a) Jaundice b) Cholera c) Cancer d) Dysentery

ಜಲಮಾಲಿನ್ಯದಿಂದ ಬರದ ರೋಗ

- a) ಕಾಮಾಲೆ b) ಕಾಲರಾ c) ಕ್ಯಾನ್ಸರ್ d) ಭೇದಿ

11) Which of the following is not an air pollutant?

- a) Smoke b) CO₂ c) Nitrogen d) Sulphur dioxide.

ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದು ವಾಯು ಮಾಲಿನ್ಯ ಕಾರಕವಲ್ಲ

- a) ಹೊಗೆ b) ಇಂಗಾಲದ ಡೈಆಕ್ಸೈಡ್ c) ಸಾರಜನಕ d) ಸಲ್ಫರ್ ಡೈ ಆಕ್ಸೈಡ್

12) A high Biological Oxygen Demand (BOD) indicates that

- a) Water is pure b) Absence of microbial action
c) Low level of microbial pollution d) High level of microbial pollution.

ಹೆಚ್ಚಿನ ಜೈವಿಕ ಆಮ್ಲಜನಕದ ಬೇಡಿಕೆ (BOD) ಇದನ್ನು ಸೂಚಿಸುತ್ತದೆ?

- a) ನೀರು ಶುದ್ಧವಾಗಿದೆ
b) ಸೂಕ್ಷ್ಮ ಜೀವಿಯ ಕ್ರಿಯೆಯ ಅನುಪಸ್ಥಿತಿ.
c) ಕಡಿಮೆ ಮಟ್ಟದ ಸೂಕ್ಷ್ಮ ಜೀವಿಯ ಮಾಲಿನ್ಯ
d) ಹೆಚ್ಚಿನ ಮಟ್ಟದ ಸೂಕ್ಷ್ಮ ಜೀವಿಯ ಮಾಲಿನ್ಯ

- 13) Which of the following is also called Detrivores?
 a) Herbivore b) Decomposer c) Carnivore d) None of the above
 ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದನ್ನು ಡೆಟ್ರಿವೋರ್ಸ್ ಎಂದು ಕರೆಯಲಾಗುತ್ತದೆ?
 a) ಸಸ್ಯಹಾರಿ b) ಕೊಳೆಯುವುದು
 c) ಮಾಂಸಾಹಾರಿ d) ಮೇಲಿನ ಯಾವುದು ಅಲ್ಲ.
- 14) Which of the following is an extinct species?
 a) Tiger b) Lion c) Dodo d) Ostrich
 ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದು ಅಳಿವಿನಂಚಿನಲ್ಲಿರುವ ಪ್ರಭೇದವಾಗಿದೆ?
 a) ಹುಲಿ b) ಸಿಂಹ c) ಡೊಡೊ d) ಆಸ್ಟ್ರಿಚ್
- 15) Which element is building block of both animals and plant tissues?
 a) Sulphur b) carbon c) nitrogen d) oxygen
 ಯಾವ ಅಂಶವು ಪ್ರಾಣಿಗಳ ಹಾಗೂ ಸಸ್ಯ ಅಂಗಾಂಶಗಳ ನಿರ್ಮಾಣ ಕೃತವಾಗಿದೆ?
 a) ಸಲ್ಫರ್ b) ಕಾರ್ಬನ್ c) ನೈಟ್ರೋಜನ್ d) ಆಕ್ಸಿಜನ್
- 16) The Chipko movement is associated with
 a) Wild life conservation b) Forest conservation c) River pollution control
 d) Air quality improvement
 ಚಿಪ್ಕೊ ಚಳುವಳಿಯು ಯಾವುದಕ್ಕೆ ಸಂಬಂಧಿಸಿದೆ?
 a) ವನ್ಯಜೀವಿ ರಕ್ಷಣೆ b) ಅರಣ್ಯ ಸಂರಕ್ಷಣೆ c) ನದಿ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ
 d) ವಾಯು ಗುಣಮಟ್ಟ ಸುಧಾರಣೆ
- 17) Which ethical approach emphasizes the intrinsic value of nature?
 a) Anthropocentrism b) Biocentrism c) Ecocentrism d) Techno centrism
 ಯಾವ ನೈತಿಕ ವಿಧಾನವು ಪ್ರಕೃತಿಯ ಸ್ವಾಭಾವಿಕ ಮೌಲ್ಯವನ್ನು ಒತ್ತಿ ಹೇಳುತ್ತದೆ?
 a) ಆಂಥ್ರೊಪೊಸೆಂಟ್ರಿಸಂ b) ಬಯೋಸೆಂಟ್ರಿಸಂ c) ಎಕೋಸೆಂಟ್ರಿಸಂ d) ಟೆಕ್ನೊಸೆಂಟ್ರಿಸಂ
- 18) When did the national green tribunal act constituted?
 a) 1995 b) 2019 c) 2010 d) 2001
 ರಾಷ್ಟ್ರೀಯ ಹಸಿರು ನ್ಯಾಯ ಮಂಡಳಿ ಕಾಯ್ದೆ ಯಾವಾಗ ರಚಿಸಲಾಯಿತು?
 a) 1995 b) 2019 c) 2010 d) 2001
- 19) In disaster management, what is a crucial aspect during cyclones?
 a) Planting more trees b) Early warning system and evacuation plans
 c) Ignoring costal areas. d) Promoting urbanization in cyclone prone regions.
 ವಿಪತ್ತು ನಿರ್ವಹಣೆಯಲ್ಲಿ ಚಂಡಮಾರುತಗಳ ಸಮಯದಲ್ಲಿ ನಿರ್ಣಾಯಕ ಅಂಶ ಯಾವುದು?
 a) ಹೆಚ್ಚು ಮರಗಳನ್ನು ನೆಡುವುದು b) ಮುನ್ನೆಚ್ಚರಿಕಾ ವ್ಯವಸ್ಥೆಗಳು ಹಾಗೂ ಸ್ಥಳಾಂತರಿಸುವ ಯೋಜನೆ
 c) ಕರಾವಳಿ ಪ್ರದೇಶವನ್ನು ನಿರ್ಲಕ್ಷಿಸುವುದು d) ಚಂಡಮಾರುತಪೀಡಿತ ಪ್ರದೇಶಗಳಲ್ಲಿ ನಗರೀಕರಣವನ್ನು ಉತ್ತೇಜಿಸುವುದು.

20) The biggest nuclear accident occurred in.

- a) New York b) Bhopal c) Chernobyl d) Beijing

ಅತಿದೊಡ್ಡ ಪರಮಾಣು ಅಪಘಾತ ಎಲ್ಲಿ ಸಂಭವಿಸಿದೆ.

- a) ನ್ಯೂಯಾರ್ಕ್ b) ಭೋಪಾಲ್ c) ಚರ್ನೊಬಿಲ್ d) ಬೀಜಿಂಗ್

21) In India when will celebrate wild life week?

- a) Between April 1 to 8 b) Between July 1 to 8
c) Between August 1 to 8 d) Between October 1 to 8

ಭಾರತದಲ್ಲಿ ಯಾವಾಗ ವನ್ಯಜೀವಿ ವಾರವನ್ನು ಆಚರಿಸಲಾಗುತ್ತದೆ.

- a) ಎಪ್ರಿಲ್ 1 ಮತ್ತು 8 ರ ನಡುವೆ b) ಜುಲೈ 1 ಮತ್ತು 8 ರ ನಡುವೆ
c) ಅಗಸ್ಟ್ 1 ಮತ್ತು 8 ರ ನಡುವೆ d) ಅಕ್ಟೋಬರ್ 1 ಮತ್ತು 8 ರ ನಡುವೆ

22) Where is the headquarter of Wild life Institute of India located.

- a) New Delhi b) Dehradun c) Mysore d) Kolkata

ವೈಲ್ಡ್ ಲೈಫ್ ಇನ್‌ಸ್ಟಿಟ್ಯೂಟ್ ಆಫ್ ಇಂಡಿಯಾದ ಪ್ರಧಾನ ಕಛೇರಿ ಎಲ್ಲಿದೆ?

- a) ನವ ದೆಹಲಿ b) ಡೆಹ್ರಾಡೂನ್ c) ಮೈಸೂರು d) ಕೊಲ್ಕತ್ತಾ

23) The Bishnois of Rajasthan are known for

- a) Sustainable agriculture b) Wild life conservation and protection
c) Industrial development d) Air pollution control.

ರಾಜಸ್ಥಾನದ ಬಿಷ್ನೋಯಿಗಳು ಯಾವುದಕ್ಕೆ ಹೆಸರುವಾಸಿಯಾಗಿದ್ದಾರೆ.

- a) ಸುಸ್ಥಿರ ಕೃಷಿ b) ವನ್ಯಜೀವಿ ಸಂರಕ್ಷಣೆ ಮತ್ತು ರಕ್ಷಣೆ
c) ಕೈಗಾರಿಕಾ ಅಭಿವೃದ್ಧಿ d) ವಾಯು ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ

24) When did Kyoto protocol entered into force?

- a) 1998 b) 2020 c) 2005 d) 2001

ಕ್ಯೋಟೋ ಪ್ರೋಟೋಕಾಲ್ ಯಾವಾಗ ಜಾರಿಗೆ ಬಂದಿತು?

- a) 1998 b) 2020 c) 2005 d) 2001

25) Which international agreement aims to phase out the use of substance that deplete the ozone layer.

- a) Kyoto Protocol b) Montreal Protocol
c) Stockholm Protocol d) All of the above

ಓಜೋನ್ ಪದರದ ಸವಕಳಿಯನ್ನು ಮಾಡುವ ವಸ್ತುಗಳನ್ನು ತೆಗೆದುಹಾಕುವ ಗುರಿಯನ್ನು ಯಾವ ಅಂತರಾಷ್ಟ್ರೀಯ ಒಪ್ಪಂದ ಹೊಂದಿದೆ?

- a) ಕ್ಯೋಟೋ ಒಪ್ಪಂದ b) ಮಾಂಟ್ರಿಯಲ್ ಒಪ್ಪಂದ
c) ಸ್ಟಾಕ್ ಹೋಮ್ ಒಪ್ಪಂದ d) ಮೇಲಿನ ಎಲ್ಲವೂ.

Reg. No.

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Second Semester B.Sc. (NEP) Degree Examination, May/June 2025 (Repeater)

ENGLISH

Paper : Generic English - II

Time : 2 Hrs

Max. Marks : 60

I. Answer the following questions in a word, a phrase or a sentence each: (10x1=10)

1. Expand ZBNF.
2. Milkha Singh is also called as _____
3. Name the coaches of Milkha Singh.
4. Name any one principle of ZBNF.
5. Who is the writer of "on saying please"?
6. The poem "A prayer for my daughter" is addressed to _____
7. Where does the poet's daughter sleep?
8. Who is Maya Angelou?
9. "Still IRise" - who is the 'I' here?
10. What does the poet compare life's struggles to?

II. "A.G. Gardenes considers politeness over legal punishment" - Explain with reference to the essay "on saying please". (1x10=10)

OR

Describe the early life and struggles of Milkha Singh. How did his childhood experiences shape his career?

III. Critically appreciate the poem "Still IRise". (1x10=10)

OR

Explain the inspirational elements of the poem "How did you die"?

IV. A) Rewrite as directed. (5x2=10)

1. Write the synonyms of the following words. (02)
 - i) beautiful
 - ii) good
2. Define homophones / homonyms and give examples. (02)
3. Use the following words in your sentence. (02)
 - i) Check
 - ii) Cheque
4. Fill in the blanks with appropriate prefix or suffix for the given words in the brackets. (02)
 - i) The birthday _____ was good (celebrate)
 - ii) He is an _____ (Engine)
5. Match the words in column 'A' with their collocative words in column 'B' (02)

A		B
i) Cricket	-	runner / player / catcher
ii) Air	-	Stop / Station / Port

OR

- B) 1. Read the following passage and identify the conceptual terms related to the topic and list them (minimum Five) (05)

A computer is an electronic device that processes data and performs various tasks based on user instructions. It consists of software and hardware components that help in computing, storing information and communication. Computers are used in all walks of life. They operate using a central processing unit (CPU) memory & storage devices. The internet has further enhanced their performance, making tasks easier and faster. From simple calculations to complex programming, computers have revolutionized modern life.

2. A) "Listening is the basic skill to acquire all language skills" - Explain. (05)

OR

- B) What are the barriers of listening? Discuss the techniques to improve listening skills.

V. Answer any TWO of the following questions. (2x5=10)

- 1) Change into indirect speech.
 - a) Tarun said, 'I am singing'
 - b) Diya said, "Punit is a good dancer".
 - c) Ramya says, "do you like mango"?
 - d) Teacher said, "Keep quiet".
 - e) Students said, "What a great story"?
- 2) Write a imaginary dialogue between a student and a teacher regarding the preparation for exams.
- 3) What is communication? Explain the various types of communication.
- 4) Summarise the following passage and give suitable title.

Students life is a formative period marked by a blend of academic pursuits, social interactions, and personal growth, a time to learn actively explore interest and develop critical thinking' skills while navigating the challenges of balancing studies with extracurricular activities, fastening a sense of responsibility and building a foundation for future endeavours.

VI. Answer any TWO of the following questions. (2x5=10)

1. Write a speech on "Sports & health."
2. Write an essay on "Free facilities to the people and development of state".
3. Write a short paragraph on "the system of Exams"
4. Translate the following paragraph into Kannada or Hindi or Marathi or Urdu language

It is necessary to lead a healthy life to avoid any kind of disease to maintain a healthy life, a person can go running or take a morning walk. We have to exercise daily, and keep healthy food habits. Avoids junk foods. It is also very important to be away from smoking and drinking. This will help us to be happy and healthy.

Reg. No.

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**Second Semester B.Sc. (NEP) Degree Examination, May/June 2025
(Repeater)**

ENGLISH

Paper : Generic English - II

Time : 2 Hrs

Max. Marks : 60

I. Answer the following questions in a word, a phrase or a sentence each: (10x1=10)

1. Expand ZBNF.
2. Milkha Singh is also called as _____
3. Name the coaches of Milkha Singh.
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II. "A.G. Gardenes considers politeness over legal punishment" - Explain with reference to the essay "on saying please". (1x10=10)

OR

Describe the early life and struggles of Milkha Singh. How did his childhood experiences shape his career?

III. Critically appreciate the poem "Still IRise". (1x10=10)

OR

Explain the inspirational elements of the poem "How did you die"?

IV. A) Rewrite as directed. (5x2=10)

1. Write the synonyms of the following words. (02)
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 - ii) good
2. Define homophones / homonyms and give examples. (02)
3. Use the following words in your sentence. (02)
 - i) Check
 - ii) Cheque
4. Fill in the blanks with appropriate prefix or suffix for the given words in the brackets. (02)
 - i) The birthday _____ was good (celebrate)
 - ii) He is an _____ (Engine)
5. Match the words in column 'A' with their collocative words in column 'B' (02)

A		B
i) Cricket	-	runner / player / catcher
ii) Air	-	Stop / Station / Port

OR

- B) 1. Read the following passage and identify the conceptual terms related to the topic and list them (minimum Five) (05)

A computer is an electronic device that processes data and performs various tasks based on user instructions. It consists of software and hardware components that help in computing, storing information and communication. Computers are used in all walks of life. They operate using a central processing unit (CPU) memory & storage devices. The internet has further enhanced their performance, making tasks easier and faster. From simple calculations to complex programming, computers have revolutionized modern life.

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- B) What are the barriers of listening? Discuss the techniques to improve listening skills.

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 - e) Students said, "What a great story"?
- 2) Write a imaginary dialogue between a student and a teacher regarding the preparation for exams.
- 3) What is communication? Explain the various types of communication.
- 4) Summarise the following passage and give suitable title.

Students life is a formative period marked by a blend of academic pursuits, social interactions, and personal growth, a time to learn actively explore interest and develop critical thinking skills while navigating the challenges of balancing studies with extracurricular activities, fastening a sense of responsibility and building a foundation for future endeavours.

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2. Write an essay on "Free facilities to the people and development of state".
3. Write a short paragraph on "the system of Exams"
4. Translate the following paragraph into Kannada or Hindi or Marathi or Urdu language
It is necessary to lead a healthy life to avoid any kind of disease to maintain a healthy life, a person can go running or take a morning walk. We have to exercise daily, and keep healthy food habits. Avoids junk foods. It is also very important to be away from smoking and drinking. This will help us to be happy and healthy.

Reg No

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BSC - II Semester (SEP Regular) Examination, June/July - 2025

ವಿಷಯ : ಅವಶ್ಯಕ ಕನ್ನಡ

ಸಾಹಿತ್ಯ ಸೊಬಗು-೨

ಅವಧಿ : 3 ಗಂಟೆ

ಒಟ್ಟು ಅಂಕಗಳು : 80

Instruction To the Candidates: ಭಾಷೆ ಮತ್ತು ಬರಹ ಶುದ್ಧಿಗೆ ಗಮನಕೊಡಲಾಗುವುದು.

ಪ್ರ- 1 ಬೇಕಾದ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.

03 x 10=30

- ಗೋಪಾಲ ಕೃಷ್ಣ ಅಡಿಗರ 'ಭೂಮಿಗೀತ'ಕಾವ್ಯವು ಭೂತಾಯಿ ವರ್ಣನೆಯಾಗಿದೆ. ವಿವರಿಸಿ.
- ಬಡವರ ಶೋಷಣೆಯನ್ನು 'ಮಣ್ಣು ಸೇರಿತು ಬೀಜ'ಕಥೆ ಹೇಗೆ ಪ್ರತಿಪಾದಿಸಿದೆ. ಚರ್ಚಿಸಿ.
- 'ಧರ್ಮದ ಬಲೆ ಬೀಸಿದಾಗ'ಕಥೆಯು ಸ್ತ್ರೀ ಅನ್ಯಾಯದ ಭವಾವಳಿಯಾಗಿದೆ. ವಿವರಿಸಿ.
- 'ಶೂದ್ರ ತಪಸ್ವಿನಾಟಕ ವಿಮರ್ಶೆ' ಲೇಖನ ಕುವೆಂಪು ಚಿಂತನೆಯನ್ನು ಹೇಗೆ ಪ್ರತಿಪಾದಿಸಿದೆ. ಚರ್ಚಿಸಿ.
- ಪ್ರೀತಿ ಒಂದು ಕಲೆಯೇ? ಎರಿಕ್ ಪ್ರಾಂ ಅವರ ವಿಚಾರಗಳನ್ನು ಪ್ರತಿಪಾದಿಸಿರಿ.

ಪ್ರ- 2 ಬೇಕಾದ ನಾಲ್ಕಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

4x5=20

- ದ.ರಾ.ಬೇಂದ್ರೆ
- ವರ್ಷಬೈರವ
- ಒಂದು ಮುಂಜಾವು
- ಯಾತಕ್ಕೆ ಮಳೆ ಹೋದವೋ?
- ಪ್ರೀತಿ ಇಲ್ಲದ ಮೇಲೆ
- ಯು.ಆರ್. ಅನಂತಮೂರ್ತಿ

ಪ್ರ- 3 ಬೇಕಾದ ಮೂರಕ್ಕೆ ಸಂದರ್ಭದೊಡನೆ ಸ್ಪಷ್ಟೀಕರಿಸಿ.

3x5=15

- "ಮೈಯಲ್ಲ ಹೆರಿಗೆ ಮನೆ ಮಸಣ"
- "ಎದ್ದು ಕೂಳು ತಿನ್ನಂಗಿದ್ದು ತಿನ್ನು,ಯಾಕುಂತಿದ್ದಿ ಹದ್ದು ಕುಂತಂಗ"
- ನಲಕ್ಕೆ ಹಸಿರು ಮೂಡೀತು ಹೇಗೆ?

d) "ಮೂಡಣದಿ ನೇಸರನ ನಗೆಮೊಗದ ಶ್ರೀಕಾಂತಿ

e) "ಕಪ್ಪಗಿನ ಕಣ್ಣವಳೆ, ಕೈ ತಟ್ಟಿ ನಕ್ಕವಳೆ"

ಪ್ರ- 4 ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿ.

15x1=15

- 1) ಗೋಪಾಲಕೃಷ್ಣ ಅಡಿಗರ ಜನ್ಮಸ್ಥಳ ಯಾವುದು?
- 2) ಗಡ್ಡದ ಬಸಣ್ಣನ ಮೂರನೇ ಹೆಂಡತಿಯ ಹೆಸರೇನು?
- 3) ಅಮರೇಶ ನುಗಡೋಣಿಯ ಜನ್ಮಸ್ಥಳ ಯಾವುದು?
- 4) 'ಇಳೆ ಎಂದರೆ ಬರಿ ಮಣ್ಣಲ್ಲ' ಎಂದು ಹೇಳಿದ ಕವಿ ಯಾರು?
- 5) ಕುವೆಂಪು ಅವರ ಹುಟ್ಟೂರು ಯಾವುದು?
- 6) ಚನ್ನವೀರ ಕಣವಿ ಅವರು ಎಂ.ಎ. ಪದವಿ ಪಡೆದ ವಿಶ್ವವಿದ್ಯಾಲಯ ಯಾವುದು?
- 7) 'ಕಾವ್ಯಾಕ್ಷಿ' ಸಂಕಲನದ ಕವಿ ಯಾರು?
- 8) ಯು.ಆರ್. ಅನಂತಮೂರ್ತಿಯವರು ಯಾವ ವಿಶ್ವವಿದ್ಯಾಲಯದಿಂದ ಪಿಎಚ್.ಡಿ ಪದವಿ ಪಡೆದಿದ್ದರು?
- 9) ಜಿ.ಎಸ್. ಶಿವರುದ್ರಪ್ಪನವರ ಯಾವ ಕೃತಿಗೆ ಕೇಂದ್ರ ಸಾಹಿತ್ಯ ಅಕಾಡೆಮಿ ಪ್ರಶಸ್ತಿ ದೊರೆತಿದೆ?
- 10) 'ಸಂಸಾರ' ಕಾದಂಬರಿಯ ಲೇಖಕರು ಯಾರು?
- 11) "ದೀಪದ ಹೆಜ್ಜೆ" ಕೃತಿಯ ಕರ್ತೃ ಯಾರು?
- 12) "ಅಕ್ಷರ ಹೊಸಕಾವ್ಯ" ಸಂಕಲನವನ್ನು ಸಂಪಾದಿಸಿದವರು ಯಾರು?
- 13) ಎರಿಕ್ ಫ್ರಾಂ ಎಲ್ಲಿ ಜನಿಸಿದರು?
- 14) ಜಿ.ಎಸ್. ಅಮೂರ ಅವರ ಪೂರ್ಣಹೆಸರೇನು?
- 15) "ಅರ್ಧರಾತ್ರಿಯಲ್ಲಿ ಹುಟ್ಟಿದ ಕೂಸು" ಕೃತಿಯ ಲೇಖಕಿಯಾರು?

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B.Sc. II Semester (SEP Regular) Examination, June/July - 2025**Subject: Physics**
Electricity and Magnetism

Duration Of Paper: 3 Hrs.

Maximum Marks :80

Instruction to Candidates: 1. Calculator is allowed to solve the problems
2. Write intermediate steps

Q.No.1) Answer Any TEN of the Following**(10x2=20)**

- What are scalars & vectors?
- State Gauss divergence theorem.
- If $\vec{A} = 3\hat{i} - \hat{j} + 2\hat{k}$ and $\vec{B} = \hat{i} - 2\hat{j} + 2\hat{k}$. Find the scalar product of two vectors.
- Write down the expression for time constant of RC circuit.
- State Kirchhoff's current law.
- A coil of self-inductance 50H and resistance 100Ω are joined in series to a 2V battery. Calculate the time constant and maximum current.
- State Biot Savart's law.
- State the principle of Helmholtz galvanometer.
- Define Lenz's law.
- Define charge sensitivity.
- What are dielectrics?
- Write the relation between dielectric constant and electric susceptibility.

Q.No.2) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

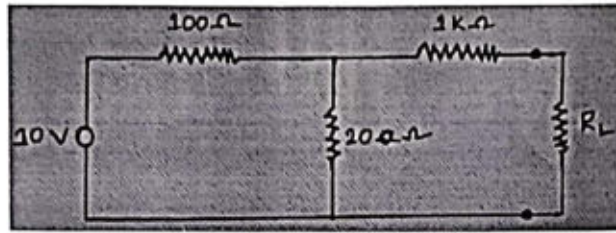
- Define divergence of vector field and explain physical interpretation of divergence of a vector field. 10
- Check, whether the vector $12\hat{i} + 4\hat{j} - 6\hat{k}$ is parallel or perpendicular to vector $6\hat{i} + 2\hat{j} - 3\hat{k}$. 5

Or

- State and prove Poynting theorem. 10
- Derive the general plane-wave equation in free space. 5

Q.No.3) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'

- a) State and prove Thevenin's theorem. 10
 b) What is the Norton's equivalent of the network shown in fig. 5



Or

- c) Derive the expressions for charging and discharging of a capacitor through RC circuit. 10
 d) An emf of 10V is applied to a circuit having a resistance of 10Ω and an inductance of $0.5H$. Find the time required by the current to attain 63.2% of its final value. What is the time constant? 5

Q.No.4) Answer Any ONE full questions 'a' & 'b' or 'c' & 'd'

- a) Derive the expressions for impedance & current in series LCR circuit using j operator. 10
 b) Write a note on LCR series and parallel resonance. 5
 Or
 c) Explain De-Sauty's bridge with necessary theory. 10
 d) A series resonant has $R=60\Omega$, $L=1H$ and $C=20\mu F$. Calculate the resonant frequency. 5

Q.No.5) Answer Any ONE full questions 'a' & 'b' or 'c' & 'd'

- a) With principle & theory give the construction & working of a ballistic galvanometer. 10
 b) Write any five applications of CRO 5
 Or
 c) Explain the boundary conditions for \vec{E} , \vec{D} and \vec{P} 10
 d) $0.2\mu F$ capacitor is charged to 4 Volt, it gives a deflection of 10cm when discharged through a ballistic galvanometer. If the time period of the galvanometer is 10 sec, calculate the current sensitivity. 5

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B.Sc. II Semester (NEP Repeater) degree Examination, June/July - 2025**Subject: Physics****Electricity and Magnetism****Duration of Paper: 2 Hrs.****Maximum Marks :60**

Instruction to the Candidates: 1) Calculators are allowed
2) Write Intermediate steps.

Q.No.1) Answer Any SIX of the Following**(6x2=12)**

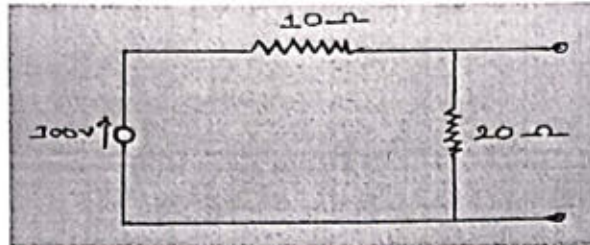
- What is vector quantity?
- State Stoke's theorem.
- State Thevenin theorem.
- Calculate the time constant of RL circuit with $R=10\Omega$ and $L=50H$.
- State Ampere Circuit law.
- Define quality factor?
- Write any two applications of CRO.
- What are polar molecules?

Q.No.2) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

- Explain physical interpretation of divergence of vector field. (8 M)
 - Find the unit vector normal to the surface $x^2+y^2=z^2$ at point (1,2,5). (4M)
- OR**
- State and prove Poynting theorem. (8M)
 - Give the physical significance of curl. (4M)

Q.No.3) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

- a) State and prove Norton's theorem. (8M)
- b) Find the open circuited voltage and Thevenin resistance of the two terminal network shown in figure. (4M)



OR

- c) Give the theory of growth and decay of current in RL circuit (8M)
- d) A condenser of capacitor $1 \times 10^{-6} \text{ F}$ is discharged through $1 \times 10^6 \Omega$ resistance. Find the time in which the charge on it falls to 36.8% of its initial value. (4M)

Q.No.4) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

- a) Give the construction, working and theory of Helmholtz galvanometer. (8M)
- b) Distinguish between dia and paramagnetic materials. (4M)

OR

- c) Explain De-sauty's bridge with necessary theory. (8M)
- d) Write down comparison between series resonance and parallel resonance. (4M)

Q.No.5) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

- a) Give the theory of ballistic galvanometer and derive an expression for the charge sensitivity. (8M)
- b) Write any four uses of CRO. (4M)

OR

- c) Explain the boundary conditions for \vec{E} , \vec{D} and \vec{P} . (8M)
- d) A current sensitivity of a ballistic galvanometer is $4.4 \times 10^{-9} \text{ A}$ for a deflection of 1mm on a scale kept at distance of 1M. Calculate the charge sensitivity of the galvanometer, if the periodic time of the coil is 3.14sec. (4M)

**B.Com/BBA/BCA/BSW/B.Sc/BA II Semester (SEP Regular) Examination,
June/July-2025**

Subject: Hindi Paper: AECC

१)काव्य कलश (कविता संकलन) २) पत्रलेखन. मुहावरें और कहावतें

Duration of Paper: 3 Hrs.

Maximum Marks :80

Instruction to the Candidate:

प्रश्न.१ किन्ही दस प्रश्नों के उत्तर एक वाक्य या वाक्यांश में लिखिए

2x10=20

- १ 'जनतंत्र का जन्म' इस कविता में ३३ करोड़ जनता ऐसा उल्लेख क्यों किया गया है?
- २ कवि पंत ने मनुष्य को किसका दास कहा है?
- ३ कवयित्री के अनुसार बालिका को कौन जान सकता है?
- ४ नव निर्माण की प्रेरणा किस कविता में दी गई है और इसके कवि कौन है?
- ५ खुदको पृथ्वी का प्राचीनतम नागरिक कौन मानता है?
- ६ कोशिश करने की प्रेरणा देनेवाली कविता कौनसी है तथा इसके कवि कौन है?
- ७ कवि ने आज का दिन ऐतिहासिक क्यों माना है? एक उदाहरण लिखिए?
- ८ धिन तो नहीं आती है? यह प्रश्न किससे पूछा गया है?
- ९ बौना किसे कहा गया है?
- १० बच्चों के बारे में चिंता किस कविता में व्यक्त कि गई है, तथा इसके कवि कौन हैं?
- ११ रामराज्य तथा साकेत का उल्लेख किस कविता में आया है, तथा इसके कवि कौन हैं?
- १२ किस कविता में लड़कियों को सम्बोधित किया गया है, और इसकी कवयित्री कौन हैं?

प्रश्न.२ किन्ही ३ की सप्रसंग व्याख्या कीजिए

3x5=15

- १ "जो है समर्थ, जो शक्तिमान
जीवन का है अधिकार उसे"
- २ "एक चिड़िया चोंच में
तिनका लिए जा रही है
वह सहज में ही पवन
उंचास को नीचा दिखाती"
- ३ "ओ अच्छी लड़कियों
अब किसीका नहीं
संभालो सिर्फ अपना मान
बे लगाम नाचने दो अपनी ख्वाहिशों को"
- ४ "लहरों से डरकर नौका पार नहीं होती

कोशिश करनेवालों की हार नहीं होती"

- ५ "अगर आज कहीं नहीं हुई कन्या भृण हत्या
तो आज का दिन ऐतिहासिक हो सकता है"

प्रश्न.३ किन्हीं दो प्रश्नों के उत्तर लिखिए

2x10=20

- १ 'बालिका का परिचय' कविता का सारांश लिखिए?
- २ 'ओ अच्छी लडकिओ' कविता द्वारा कवयित्री नारी सबलीकरण का संदेश देना चाहती है,
स्पष्ट कीजिए?
- ३ 'बौनों कि दुनिया' कविता का सारांश लिखिए?
- ४ 'कोशिश करनेवालों की हार नहीं होती' कविता द्वारा कवि क्या संदेश देना चाहते हैं?

प्रश्न.४ किन्हीं दो पर टिप्पणी लिखिए

2x5=10

- १ 'जीवन का अधिकार' कविता में कवि का संदेश
- २ पानी की प्रार्थना क्या है?
- ३ धिन तो नहीं आती है?
- ४ गौतम एक बार फिर आओ

प्रश्न.५ (A) किसी एक प्रश्न का उत्तर लिखिए

10x1=10

- १ मित्र को गृह प्रवेश के लिए निमंत्रण पत्र लिखिए?
- २ व्यापारिक छूट (Discount) कम दिए जाने पर साहित्यायन, लातूर की ओर से लोकभारती
प्रकाशन, इलाहाबाद को शिकायती पत्र लिखिए?

प्रश्न.५ (B) किन्हीं ५ मुहावरों/ कहावतों का अर्थ लिखिए

5x1=5

- १ ईद का चांद
- २ घोड़े बेचकर सोना
- ३ टांग अडाना
- ४ नाक में दम करना
- ५ एक अनार सौ बीमार
- ६ खोदा पहाड़ निकला चूहा
- ७ जो गरजते हैं वो बरसते नहीं

B.Sc. II Semester (SEP REGULAR) Examination, June/July - 2025**Subject: Chemistry****Chemistry 2T****Duration Of Paper: 3 Hrs.****Maximum Marks :80**

Instruction To the Candidates: 1) All questions are compulsory.

2) Draw neat diagrams and give equations wherever necessary.

1) Answer Any Ten questions.**(10x2=20)**

- What is lattice energy? Mention its significance
- Write two general characteristics of covalent compounds
- Mention the hybridization of molecules having tetrahedral, Trigonal pyramidal shapes.
- What are confirmation and configuration.
- What are enantiomers? Give example
- What is racemic mixture? Mention its optical property.
- Mention the types of solids with example
- What is viscosity? Mention its unit
- What is surface tension? Mention its variation with temperature.
- Mention the spectral region and requirement of vibrational spectra.
- Give the diagram of vibrational energy levels of diatomic harmonic oscillator.
- Mention the vibrational degrees of freedom for an atomic linear and nonlinear molecule

2. Answer any three questions.**(3x 5= 15)**

- Calculate the Heat of formation of NaCl using the Born-Haber cycle from following data.

Heat of sublimation of sodium = 109.8 KJ/mol

Dissociation energy of chlorine = 227.6 KJ/ mol

Ionization energy of sodium gas = 489.5 KJ/mol

Electron affinity for chlorine = -351.4 KJ/ mol

Lattice energy of sodium chloride = -778.5 KJ/ mol

- Discuss the sp^2 hybridization and shape of BF_3 molecule
- What are bonding and antibonding molecular orbitals? Write their characteristics.
- Give the molecular orbital energy level diagram of nitrogen molecule and write its molecular orbital configuration, magnetic property.

- 3. Answer any three questions. (3 X 5 = 15)**
- What is geometrical isomerism? Discuss the conditions to show geometrical isomerism with examples?
 - Assign the E & Z notations for following with explanation of rules
 - 2-butene
 - Butanedioc acid
 - Assign the R and S notations for 2-butanol with explanation.
 - Write about the following with examples
 - Diastereomers
 - meso compounds
- 4. Answer any three questions. (3 X 5 = 15)**
- Write about the following
 - Crystal Centre of symmetry and plane of symmetry
 - Bragg's law
 - Bring out the definition of parachor from Macleod's equation.
 - How viscosity of liquid is determined by Ostwald's viscometer?
 - The refractive index and density of carbon tetrachloride are 1.458 and 1.584 gm/cc respectively. Calculate the specific refraction and molar of CCl_4 . (Mol. Weight of CCl_4 = 153)
- 5. Answer any three questions. (3 X 5 = 15)**
- Write the following with reference to rotational spectra
 - Spectral region and range
 - Criteria for spectra
 - Molecules showing and not showing spectra
 - Rotational energy expression
 - Selection rules, lines spacing
 - Derive the expression $I = \mu r^2$ for a rigid diatomic rotator.
 - The rotational spectrum of gaseous HCl has a series of equidistant lines separated by 21.18 cm^{-1} calculate the following of HCl
 - Rotational constant
 - Moment of Inertia
 - Bond length

($\mu = 1.627 \times 10^{-27} \text{ kg}$, $h = 6.626 \times 10^{-34} \text{ JS}$, $C = 3 \times 10^{10} \text{ cm/s}$)
 - The fundamental vibrational frequency of HCl is $8.964 \times 10^{13} \text{ S}^{-1}$. Calculate the zero-point energy and force constant of HCl molecule. ($\mu = 1.626 \times 10^{-27} \text{ kg}$)

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B.Sc. II Semester (SEP Regular) Examination, June/July - 2025

Subject: Calculus and 3- Dimensional Geometry

Duration Of Paper: 3 Hrs.

Maximum Marks :80

- Instructions to Candidates : 1. Answer any ten questions from Q.no. 1
2. Answer any three questions from Q.no. 2,3,4 and 5

Q.no.1 Answer any TEN questions

(10x2=20)

- If $r = a(1 + \sin\theta)$, then find ϕ .
- Define polar subtangent and polar subnormal
- Write the coordinates of center of curvature
- Show that $\lim_{(x,y) \rightarrow (0,0)} \frac{xy}{x^2+y^2}$ does not exist
- Find the total derivative of u w.r.t 't' when $u = e^x \sin y$, where $x = \log t$, $y = t^2$
- Define Jacobian of u, v, w w.r.t the independent variables x, y, z .
- Write the steps to find a reduction formula for $\int \tan^n x \, dx$
- Find a reduction formula for $\int x^m (\log x)^n \, dx$
- Evaluate: $\int_0^{\pi/2} \cos^8 x \, dx$
- Find the center & radius of the sphere $x^2 + y^2 + z^2 - 2y - 4z - 11 = 0$
- Define orthogonal sphere
- Define great circle

Q.no.2. Answer any three of the following

(3x5=15)

- Define the angle between the radius vector and the tangent to the curve $r = f(\theta)$.
- Find the angle of intersection of two curves $r = \sin\theta + \cos\theta$ & $r = 2\sin\theta$
- Define the radius of curvature in parametric form
- Show that the pedal equation of the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ is $\frac{a^2 b^2}{p^2} + r^2 = a^2 + b^2$.

Q.no.3. Answer any three of the following

(3x5=15)

- If $z = \tan^{-1} \left(\frac{y}{x} \right)$, verify that $\frac{\partial^2 z}{\partial x^2} + \frac{\partial^2 z}{\partial y^2} = 0$
- State & prove generalized Euler's theorem on homogeneous function of two variables.
- If $u = f(y-z, z-x, x-y)$, then prove that $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z} = 0$

- d) If $u^3 + v^3 + w^3 = x + y + z$, $u^2 + v^2 + w^2 = x^3 + y^3 + z^3$ & $u+v+w=x^2 + y^2 + z^2$ then prove that $\frac{\partial(u,v,w)}{\partial(x,y,z)} = \frac{(x-y)(y-z)(z-x)}{(u-v)(v-w)(w-u)}$

Q.no.4. Answer any three of the following

(3x5=15)

- a) If $I_n = \int_0^{\pi/4} \cot^n x \, dx$, show that $I_n + I_{n-2} = \frac{1}{n-1}$. further, evaluate I_3
- b) Evaluate $\int_0^{\pi/2} \sin^n x \, dx$ for all the odd & even integral values of n . completely,
- c) Obtain the reduction formula for $\int \cos^m x \sin x \, dx$
- d) Evaluate : $\int_0^{\infty} \frac{x^4}{(1-x^2)^4} \, dx$

Q.no.5. Answer any three of the following

(3x5=15)

- a) Find the equation of the sphere through the points (4,-1,2), (0,-2,3) (1,5,-1) & (2,0,1)
- b) Find the equation to the sphere for which the circle of intersection of $x^2+y^2+z^2+7y-2z+2=0$ and $2x+3y+4z=8$ is a great circle.
- c) Derive the equation of the tangent plane to the sphere $x^2 + y^2 + z^2 + 2ux + 2vy + 2wz + d = 0$ at a point (x_1, y_1, z_1)
- d) Find the equation of the sphere through the circle $x^2 + y^2 + z^2 - 2x + 3y - 4z + 6 = 0$, $3x - 4y + 5z - 15 = 0$ & Cutting the sphere $x^2 + y^2 + z^2 + 2x + 4y - 6z + 11 = 0$ orthogonally

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B.Sc. II Semester (SEP REGULAR) Examination, June/July - 2025**Subject: Chemistry****Chemistry 2T****Duration Of Paper: 3 Hrs.****Maximum Marks :80**

Instruction To the Candidates: 1) All questions are compulsory.

2) Draw neat diagrams and give equations wherever necessary.

1) Answer Any Ten questions.**(10x2=20)**

- What is lattice energy? Mention its significance
- Write two general characteristics of covalent compounds
- Mention the hybridization of molecules having tetrahedral, Trigonal pyramidal shapes.
- What are confirmation and configuration.
- What are enantiomers? Give example
- What is racemic mixture? Mention its optical property.
- Mention the types of solids with example
- What is viscosity? Mention its unit
- What is surface tension? Mention its variation with temperature.
- Mention the spectral region and requirement of vibrational spectra.
- Give the diagram of vibrational energy levels of diatomic harmonic oscillator.
- Mention the vibrational degrees of freedom for an atomic linear and nonlinear molecule

2. Answer any three questions.**(3x 5= 15)**

- Calculate the Heat of formation of NaCl using the Born-Haber cycle from following data.
Heat of sublimation of sodium = 109.8 KJ/mol
Dissociation energy of chlorine = 227.6 KJ/ mol
Ionization energy of sodium gas = 489.5 KJ/mol
Electron affinity for chlorine = -351.4 KJ/ mol
Lattice energy of sodium chloride = -778.5 KJ/ mol
- Discuss the sp^2 hybridization and shape of BF_3 molecule
- What are bonding and antibonding molecular orbitals? Write their characteristics.
- Give the molecular orbital energy level diagram of nitrogen molecule and write its molecular orbital configuration, magnetic property.

3. Answer any three questions. (3 X 5 = 15)

- What is geometrical isomerism? Discuss the conditions to show geometrical isomerism with examples?
- Assign the E & Z notations for following with explanation of rules
 - 2-butene
 - Butanedioc acid
- Assign the R and S notations for 2-butanol with explanation.
- Write about the following with examples
 - Diastereomers
 - meso compounds

4. Answer any three questions.

(3 X 5 = 15)

- Write about the following
 - Crystal Centre of symmetry and plane of symmetry
 - Bragg's law
- Bring out the definition of parachor from Macleod's equation.
- How viscosity of liquid is determined by Ostwald's viscometer?
- The refractive index and density of carbon tetrachloride are 1.458 and 1.584 gm/cc respectively. Calculate the specific refraction and molar of CCl_4 . (Mol. Weight of CCl_4 = 153)

5. Answer any three questions.

(3 X 5 = 15)

- Write the following with reference to rotational spectra
 - Spectral region and range
 - Criteria for spectra
 - Molecules showing and not showing spectra
 - Rotational energy expression
 - Selection rules, lines spacing
- Derive the expression $I = \mu r^2$ for a rigid diatomic rotator.
- The rotational spectrum of gaseous HCl has a series of equidistant lines separated by 21.18 cm^{-1} calculate the following of HCl
 - Rotational constant
 - Moment of Inertia
 - Bond length

($\mu = 1.627 \times 10^{-27} \text{ kg}$, $h = 6.626 \times 10^{-34} \text{ JS}$, $C = 3 \times 10^{10} \text{ cm/s}$)
- The fundamental vibrational frequency of HCl is $8.964 \times 10^{13} \text{ S}^{-1}$. Calculate the zero-point energy and force constant of HCl molecule. ($\mu = 1.626 \times 10^{-27} \text{ kg}$)

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B.Sc. II Semester (SEP Regular) Examination, June/July-2025
Subject: Basic English

Duration Of Paper: 3 Hrs.

Maximum Marks :80

Instruction To the Candidate: Read the questions carefully, write answers legibly and clearly.

Q.1 Answer any TEN following questions:**(10X2=20)**

1. What is Orwell's main criticism of modern English writing?
2. Where did Baldeo's family live?
3. What was Milkha Singh's primary mission in the years 1956 and 1957?
4. How many research papers did Albert Einstein write on topics which an ordinary man would never dream of?
5. What does the phrase 'forest fire' symbolize in the poem 'Forest Fire'?
6. What was Miss Pushpa's father?
7. Define 'Active voice' and give an example.
8. What is 'Paragraph writing'?
9. Name at least four punctuations.
10. Mention any two types of presentation.
11. Mention any two aspects of body language.
12. What is 'TED Talk'?

Q.2.1 Answer any ONE of the following:**(1X10=10)**

- a) Sketch the character of Baldeo.
- b) Explain George Orwell's ideas on Politics and the English Language.

2.2 Write a short note on any ONE of the following:**(1X5=5)**

- a) Milkha Singh's hard work and dedication.
- b) Human behavior in "On a Talk in a Bus."

Q.3.1 Answer any ONE of the following questions:**(1X10=10)**

- a) Critically appreciate the poem 'Einstein's Academic Aspirations'.
- b) Explain the influence of Indian language on English as seen in the poem 'Good-bye Party for miss Pushpa T.S.'

3.2 Write a short note on any ONE of the following:**(1X5=5)**

- a) Symbolism in 'Is the Master at Home'.
- b) Themes of Destruction and Chaos in 'Forest Fire'.

Q.4.1 Rewrite as Directed:**(5X1=5)**

1. Open the door. (change it into passive voice)
2. It is a wonderful monument. (Change into Exclamatory)
3. Ravi is too busy to talk now. (Remove too--- to)
4. The coffee is too hot to drink. (Use enough)
5. Unless you study hard, you will not pass the exam. (Use if)

4.2 Rewrite as directed:**(5x1=5)**

1. A million people waited in the sun. (Frame WH question as to get underlined word as answer.)
2. The plough was invented later. (Frame WH question as to get underlined word as answer.)
3. Somesh comes to college by bus. (Frame WH question as to get underlined word as answer.)

4. he said where are you going (Use the correct punctuations)
5. She said to me did you attend the class. (Use the correct punctuation)
- 4.3 **Rearrange the following sentences to form a meaningful paragraph:** (5x1=5)
 1. In spite of the delay, she was not upset, as it was quite common.
 2. Juliane boarded the plane at Lima in order to go to Pucallpa.
 3. Finally, it took off at 11.15.a.m. four hours late.
 4. After the take-off, she saw the tops of the Andes mountains.
 5. But the plane did not take off at the scheduled time.
- Q.5 **Answer any THREE of the following:** (3x5=15)
 1. Explain the types of presentation.
 2. Why is body language important in effective communication?
 3. How does Surabhi Gautam express her ideas on 'How She Became an IAS Officer'?
 4. Explain Sudha Murty's ideas on 'How to Lead a Balanced Life'.
 5. Capt. Raghu Raman's views on 'Diversity is the New Nationality'.

B.A/B.Com/B.Sc/BBA/BCA/BSW II Semester (SEF Regular) Examination,

June/July-2025

Subject: Political Science

Paper: Introduction to the Constitutional Values -2

Duration of Paper: 1 Hrs.

Maximum Marks :40

Instructions to the Candidate:

1. Check for complete printing of 40 questions.
2. The last page to the question paper may be used for rough work.
3. Each question has four multiple choice answers and choose the correct one.
4. Darken the appropriate circle with the ball pen.
5. Damaging, overwriting, using whitener on the OMR sheet are strictly prohibited.
6. No candidates will be allowed to leave the examination hall till the end of the session and without handing over his/her answer sheet to the invigilator.
7. Candidates should ensure that the invigilator has verified all entries and that invigilator has affixed his/her signature in the space provided on the OMR.

- 1) To be the governor, a person should have completed _____ years of age.
A) 18 B) 35 C) 25 D) 64
ರಾಜ್ಯಪಾಲರನ್ನು ವ್ಯಕ್ತಿಯು _____ ವರ್ಷ ವಯಸ್ಸನ್ನು ಪೂರೈಸಿರಬೇಕು.
- 2) Governor appoints the _____.
A) Chief Minister B) Council of Minister
C) Both A and B D) Prime minister
ರಾಜ್ಯಪಾಲರು _____ ರವರನ್ನು ನೇಮಿಸುತ್ತಾರೆ.
- 3) In India, the state legislature consists of the _____ and one or two houses.
A) Governor B) Chief Minister
C) Council of Ministers D) None of the above
ಭಾರತದಲ್ಲಿ ರಾಜ್ಯಸಭಾಕಾರ್ಯವು _____ ಹಾಗೂ ಏಕ ಅಥವಾ ದ್ವಿಸದನಗಳನ್ನು ಒಳಗೊಂಡಿದೆ.
- 4) Who has the authority to abolish or create a legislative council in a state?
A) Governor B) President
C) Parliament D) Supreme Court
ರಾಜ್ಯದಲ್ಲಿ ವಿಧಾನ ಪರಿಷತ್ತನ್ನು ರದ್ದುಪಡಿಸುವ ಅಥವಾ ರಚಿಸುವ ಅಧಿಕಾರ ಯಾರಿಗಿದೆ?
- 5) What is the minimum age for being a member of the legislative council?
A) 21 Years B) 25 years
C) 30 Years D) 35 Years

1

- 6) ವಿಧಾನಪರಿಷತ್ತಿನ ಸದಸ್ಯರಾಗಲು ನಿಗದಿಪಡಿಸಿದ ಕನಿಷ್ಠ ವಯೋಮಿತಿ ಎಷ್ಟು?
A) 21 ವರ್ಷ B) 25 ವರ್ಷ
C) 30 ವರ್ಷ D) 35 ವರ್ಷ
- 7) In the case of a money bill, the legislative council must return it within how many days?
A) 7 Days B) 14 Days
C) 21 Days D) 30 Days
ಧನಸಂಕೇತದ ಸಂಬಂಧಿಸಿದಂತೆ, ವಿಧಾನಪರಿಷತ್ತು ಎಷ್ಟು ದಿನಗಳಲ್ಲಿ ಅದನ್ನು ವಿಧಾನಸಭೆಗೆ ಹಿಂದಿರುಗಿಸಬೇಕು?
- 8) ವಿಧಾನಸಭೆಯು
A) 7 ದಿನಗಳು B) 14 ದಿನಗಳು
C) 21 ದಿನಗಳು D) 30 ದಿನಗಳು
- 9) What is the minimum strength of a legislative council?
A) 30 B) 40 C) 50 D) 60
ವಿಧಾನ ಪರಿಷತ್ತು ಕನಿಷ್ಠವಿರುವುದಾದ ಕನಿಷ್ಠ ಸದಸ್ಯರ ಸಂಖ್ಯೆ ಎಷ್ಟು?
- 10) Which article of the Indian constitution deals with amendment procedure?
A) Article 268 B) Article 352
C) Article 356 D) Article 368
ಭಾರತದ ಯಾವ ಸಂವಿಧಾನ ವಿಧಾನಸಭೆಯನ್ನು ಮುರಿಸಬಹುದು?
- 11) A constitutional Amendment bill can be introduced in which house of the legislature?
A) Lok Sabha B) Rajya Sabha
C) Either A or B D) Vidhaya Sabha
ಸಂವಿಧಾನ ತಿದ್ದುಪಡಿ ಬಿಲ್ ಯಾವ ಸದನದಲ್ಲಿ ಸಂವಿಧಾನ ತಿದ್ದುಪಡಿ ಮಸೂದೆಯನ್ನು ಮಂಡಿಸಬಹುದು?
- 12) The 101st Amendment Act- 2016 is related to _____.
A) S. T. B) Fundamental Rights
C) Powers of the Speaker D) Ordinances
101 ನೇ ಸಂವಿಧಾನ ತಿದ್ದುಪಡಿ ಕಾಯ್ದೆ - 2016 _____ ಸಂಬಂಧಿಸಿದೆ.
- 13) Which of the following articles deals with the appointment of judges of high court?
A) Article 214 B) Article 217
C) Article 226 D) Article 216
ಈ ಕೆಳಗಿನ ಯಾವ ವಿಧಿಯು ಹೈಕೋರ್ಟಿನ ನ್ಯಾಯಾಧೀಶರ ನೇಮಕಾತಿಗೆ ಸಂಬಂಧಿಸಿದೆ?
- 14) Who is authorized to transfer the judges of high court?
A) President B) Governor
C) Chief minister D) Union law minister
ಹೈಕೋರ್ಟಿನ ನ್ಯಾಯಾಧೀಶರನ್ನು ಮಾರ್ಗದರ್ಶಿ ಮಾಡುವ ಅಧಿಕಾರ ಯಾರಿಗಿದೆ?

2

Q. P. Code: 2S2XXXC02T

- 13) A High Court Judge writes his letter of resignation to which of the following?
A) President B) The Chief Justice of India
C) Chief Justice of High Court D) Governor
ಉಚ್ಚ ನ್ಯಾಯಾಲಯ ನ್ಯಾಯಾಧೀಶರು ಈ ಕೆಳಗಿನವರಲ್ಲಿ ಯಾರಿಗೆ ತಮ್ಮ ರಾಜೀನಾಮೆ ಪತ್ರವನ್ನು ಸಲ್ಲಿಸುತ್ತಾರೆ?
A) ರಾಷ್ಟ್ರಪತಿಗಳು B) ಭಾರತದ ಮುಖ್ಯ ನ್ಯಾಯಾಧೀಶರು
C) ಉಚ್ಚ ನ್ಯಾಯಾಲಯದ ಮುಖ್ಯ ನ್ಯಾಯಾಧೀಶರು D) ರಾಜ್ಯಪಾಲರು.
- 14) The state council of ministers are collectively responsible to which among the following?
A) President B) Governor
C) Legislative Assembly D) Legislative Council
ರಾಜ್ಯ ಮಂತ್ರಿಮಂಡಲವು ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾರಿಗೆ ಸಾಮೂಹಿಕವಾಗಿ ಜವಾಬ್ದಾರಿಯುಳ್ಳದ್ದಿದೆ?
A) ರಾಷ್ಟ್ರಪತಿಗಳು B) ರಾಜ್ಯಪಾಲರು
C) ರಾಜ್ಯ ವಿಧಾನ ಸಭೆ D) ವಿಧಾನ ಪರಿಷತ್ತು
- 15) Who among the following does remove the governor of a state?
A) Chief Minister B) Prime Minister
C) President D) None of the above
ಈ ಕೆಳಗಿನವರಲ್ಲಿ ಯಾರು ರಾಜ್ಯಪಾಲರನ್ನು ವಜಾಮಾಡಲು ಸೂಕ್ತರು?
A) ಮುಖ್ಯ ಮಂತ್ರಿ B) ಪ್ರಧಾನ ಮಂತ್ರಿ
C) ರಾಷ್ಟ್ರಪತಿಗಳು D) ಮೇಲಿನ ಯಾವುದೂ ಅಲ್ಲ.
- 16) Which among the following is not appointed by governor?
A) Members of state public service commission
B) State Election Commissioner
C) Chief Justice of High Court
D) Advocate-General
ಈ ಕೆಳಗಿನವರಲ್ಲಿ ಯಾರು ರಾಜ್ಯಪಾಲರಿಂದ ನೇಮಕಗೊಳ್ಳುವುದಿಲ್ಲ?
A) ರಾಜ್ಯ ಲೋಕಸೇವಾ ಆಯೋಗದ ಸದಸ್ಯರು B) ರಾಜ್ಯ ಚುನಾವಣಾ ಆಯುಕ್ತರು
C) ಉಚ್ಚ ನ್ಯಾಯಾಲಯದ ಮುಖ್ಯ ನ್ಯಾಯಾಧೀಶರು D) ಹೈಕೋರ್ಟ್-ಜನರಲ್
- 17) Who is responsible for conducting panchayat elections as per the 73rd amendment act?
A) Election Commission of India
B) State Government
C) Union Government
D) State Election Commission
ಸಂವಿಧಾನದ 73ನೇ ತಿದ್ದುಪಡಿ ಕಾಯ್ದೆಯನ್ವಯ ಪಂಚಾಯತ್‌ಗಳಿಗೆ ಚುನಾವಣೆಗಳನ್ನು ನಡೆಸುವ ಜವಾಬ್ದಾರಿ ಯಾರಿಗಿದೆ?
A) ಭಾರತ ಚುನಾವಣಾ ಆಯೋಗ B) ರಾಜ್ಯ ಸರ್ಕಾರ
C) ಕೇಂದ್ರ ಸರ್ಕಾರ D) ರಾಜ್ಯ ಚುನಾವಣಾ ಆಯೋಗ
- 18) What is the minimum age to contest elections to panchayats?
A) 18 Years B) 21 Years
C) 23 years D) 25 years
ಪಂಚಾಯತ್ ಚುನಾವಣೆಗೆ ಸ್ಪರ್ಧಿಸಲು ನಿಗದಿಪಡಿಸಿದ ಕನಿಷ್ಠ ವಯಸ್ಸೆಷ್ಟು?

3

Q. P. Code: 2S2XXXC02T

- 19) The 73rd constitutional amendment act added which schedule to the constitution?
A) Tenth schedule B) Eleventh schedule
C) Twelfth schedule D) Fourteenth schedule
ಭಾರತದ ಸಂವಿಧಾನಕ್ಕೆ 73ನೇ ಸಂವಿಧಾನ ತಿದ್ದುಪಡಿ ಕಾಯ್ದೆಯು ಯಾವ ತೆರದೋ ನು ಸೇರಿಸಿತು?
A) 10ನೇ ತೆರದೋ B) 11ನೇ ತೆರದೋ C) 12ನೇ ತೆರದೋ D) 14ನೇ ತೆರದೋ
- 20) What is the main purpose of panchayat raj system?
A) To increase agricultural production.
B) To create employment opportunities.
C) To create political awareness.
D) To make people participate in developmental administration.
ಪಂಚಾಯತ್ ರಾಜ್ ವ್ಯವಸ್ಥೆಯ ಮುಖ್ಯ ಉದ್ದೇಶ ಯಾವುದು?
A) ಕೃಷಿ ಉತ್ಪಾದನೆಯನ್ನು ಹೆಚ್ಚಿಸುವುದು B) ಉದ್ಯೋಗ ಅವಕಾಶಗಳನ್ನು ಹೆಚ್ಚಿಸುವುದು
C) ರಾಜಕೀಯ ಜಾಗೃತಿ ಮೂಡಿಸುವುದು D) ಅಭಿವೃದ್ಧಿ ಆದಳೆಡೆಲ್ಲಿ ಜನತೆ ಪಾಲ್ಗೊಳ್ಳುವಂತೆ ಮಾಡುವುದು.
- 21) Which state was the first to implement the panchayat raj system?
A) Andhra Pradesh B) West Bengal
C) Rajasthan D) Tamil Nadu.
ಪಂಚಾಯತ್ ರಾಜ್ ವ್ಯವಸ್ಥೆಯನ್ನು ಅನುಷ್ಠಾನಗೊಳಿಸಿದ ಮೊದಲ ರಾಜ್ಯ ಯಾವುದು?
A) ಆಂಧ್ರ ಪ್ರದೇಶ B) ಪಶ್ಚಿಮ ಬಂಗಾಲ
C) ರಾಜಸ್ಥಾನ D) ತಮಿಳುನಾಡು
- 22) Which article of the Indian Constitution deals with the reservation of seats in panchayats?
A) 243 F B) 243 D
C) 243 C D) 243 E
ಸಂವಿಧಾನದ ಯಾವ ವಿಧಿಯು ಪಂಚಾಯತ್ ಸ್ಥಾನಗಳಲ್ಲಿ ಮೀಸಲಾತಿಯನ್ನು ಒದಗಿಸುತ್ತದೆ?
A) 243 F B) 243 D
C) 243 C D) 243 E
- 23) Which of the following is not a part of the three-tier panchayat raj system?
A) Gram panchayat B) Panchayat Samiti
C) Zila panchayat D) Panchayat Samiti
ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದು ಮೂರು ಹಂತದ ಪಂಚಾಯತ್ ರಾಜ್ ವ್ಯವಸ್ಥೆಯ ಭಾಗವಾಗಿಲ್ಲ?
A) ಗ್ರಾಮ ಪಂಚಾಯತ್ B) ಗ್ರಾಮ ಸಮಿತಿ
C) ಜಿಲ್ಲಾ ಪಂಚಾಯತ್ D) ಪಂಚಾಯತ್ ಸಮಿತಿ
- 24) Who is called the 'father of local self-government' in India?
A) Lord Munro B) Lord Curzon
C) Lord Mayo D) Lord Rippon
ಭಾರತದಲ್ಲಿ ಸ್ಥಳೀಯ ಸ್ವಯಂ ಸರ್ಕಾರಗಳ ವಿಚಾರವು ಎಂದು ಯಾರನ್ನು ಕರೆಯಲಾಗುತ್ತದೆ?
A) ಲಾರ್ಡ್ ಮೊನ್ರೋ B) ಲಾರ್ಡ್ ಕರ್ಜನ್
C) ಲಾರ್ಡ್ ಮೇಯೋ D) ಲಾರ್ಡ್ ರಿಪ್ಪನ್
- 25) 'Local government' is subject mentioned in -
A) Union list B) State list

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- 26) Concurrent list ----- D) None of the above
ಸಳಿರು ಸರಕಾರವು ----- ಯಲ್ಲಿ ಇರುವ ವಿಷಯವಾಗಿದೆ.
A) ರಾಜ್ಯ ಪಟ್ಟಿ
B) ರಾಜ್ಯ ಪಟ್ಟಿ
C) ಸಾಮಾನ್ಯ ಪಟ್ಟಿ
D) ಮೇಲಿನ ಯಾವುದೂ ಅಲ್ಲ
- 27) Panchayats are given constitutional status by -----
A) 72nd Amendment B) 73rd Amendment
C) 74th Amendment D) 75th Amendment
ಪಂಚಾಯತ್‌ಗಳಿಗೆ ಸಂವಿಧಾನಾತ್ಮಕ ಸ್ಥಾನಮಾನ ನೀಡಿದ್ದು -----
A) 72 ನೇ ತಿದ್ದುಪಡಿ B) 73 ನೇ ತಿದ್ದುಪಡಿ
C) 74 ನೇ ತಿದ್ದುಪಡಿ D) 75 ನೇ ತಿದ್ದುಪಡಿ
- 28) Balwant rai Mehta committee suggested ?
A) Three- tier panchayat raj system
B) Two - tier panchayat raj system
C) One - tier panchayat raj system
D) Four- tier panchayat raj system
ಬಲವಂತರಾಯ ಮಹತಾ ಸಮಿತಿ ಶಿಫಾರಸು ಮಾಡಿದ್ದು ----
A) ಮೂರು - ಹಂತದ ಪಂಚಾಯತ್‌ರಾಜ್ ವ್ಯವಸ್ಥೆ
B) ಎರಡು - ಹಂತದ ಪಂಚಾಯತ್‌ರಾಜ್ ವ್ಯವಸ್ಥೆ
C) ಒಂದು - ಹಂತದ ಪಂಚಾಯತ್‌ರಾಜ್ ವ್ಯವಸ್ಥೆ
D) ನಾಲ್ಕು - ಹಂತದ ಪಂಚಾಯತ್‌ರಾಜ್ ವ್ಯವಸ್ಥೆ
- 29) The chief minister is appointed by -----
A) Governor B) Prime Minister
C) President D) Chief Justice of High Court
ಮುಖ್ಯಮಂತ್ರಿಯನ್ನು ನೇಮಿಸುವವರು -----
A) ರಾಜ್ಯಪಾಲರು B) ಪ್ರಧಾನ ಮಂತ್ರಿ
C) ರಾಜ್ಯಾಧ್ಯಕ್ಷರು D) ಹೈಕೋರ್ಟ್‌ನ ಮುಖ್ಯ ನ್ಯಾಯಮೂರ್ತಿ
- 30) The oath of office is administered to the governor by the
A) President
B) Chief Justice of India
C) Speaker of Legislative Assembly
D) Chief Justices of High Court
ರಾಜ್ಯಪಾಲರಿಗೆ ಪ್ರವರಣ ವರ್ತನ ದೋಷಿಸುವವರು :
A) ರಾಜ್ಯಾಧ್ಯಕ್ಷರು
B) ಭಾರತದ ಮುಖ್ಯ ನ್ಯಾಯಮೂರ್ತಿಗಳು
C) ವಿಧಾನಸಭೆಯ ಸಭಾಧ್ಯಕ್ಷರು
D) ಹೈಕೋರ್ಟ್‌ನ ಮುಖ್ಯ ನ್ಯಾಯಮೂರ್ತಿಗಳು
- 31) The chief minister of a state is member of -----
A) NITI Aayog
B) Finance Commission
C) National Development Council
D) Election Commission
ರಾಜ್ಯದ ಮುಖ್ಯಮಂತ್ರಿಗಳು ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದರ ಸದಸ್ಯರಾಗಿರುತ್ತಾರೆ?
A) ನೀತಿ ಆಯೋಗ
- 32) ಬಿಹಾರಾಸು ಆಯೋಗ
C) ರಾಷ್ಟ್ರೀಯ ಅಭಿವೃದ್ಧಿ ಮಂಡಳಿ
D) ಸಾರ್ವಜನಿಕ ಆಯೋಗ
A minister in the state government is individually responsible to -----
A) Legislative Council
B) Legislative Assembly
C) Chief Minister
D) Governor
ರಾಜ್ಯ ಸರಕಾರದಲ್ಲಿ ಮಂತ್ರಿಯು ವ್ಯಕ್ತಿಸ್ವತಃ ----- ಗೆ ಜವಾಬ್ದಾರಿಯಾಗಿರುತ್ತದೆ.
A) ವಿಧಾನ ಪರಿಷತ್ತು
B) ವಿಧಾನ ಸಭೆ
C) ಮುಖ್ಯ ಮಂತ್ರಿ
D) ರಾಜ್ಯಪಾಲ
- 33) The tenure of the legislative assembly is :
A) 4 Years B) 5 years
C) 6 years D) 3 years
ವಿಧಾನಸಭೆಯ ಅಧಿಕಾರಾವಧಿ
A) 4 ವರ್ಷ B) 5 ವರ್ಷ
C) 6 ವರ್ಷ D) 3 ವರ್ಷ
- 34) Which amendment inserted the fundamental duties in to the constitution of India ?
A) 40th Amendment B) 42nd Amendment
C) 44th Amendment D) 52nd Amendment
ಭಾರತದ ಸಂವಿಧಾನಕ್ಕೆ ಮೂಲಭೂತ ಕರ್ತವ್ಯಗಳನ್ನು ಸೇರ್ಪಡೆ ಮಾಡಿದ ತಿದ್ದುಪಡಿ ಯಾವುದು ?
A) 40 ನೇ ತಿದ್ದುಪಡಿ B) 42 ನೇ ತಿದ್ದುಪಡಿ
C) 44 ನೇ ತಿದ್ದುಪಡಿ D) 52 ನೇ ತಿದ್ದುಪಡಿ
- 35) The right to property was removed from Part III of Indian constitution by -----
A) 40th Amendment B) 42nd Amendment
C) 44th Amendment D) 50th Amendment
ಸಂವಿಧಾನದ 3ನೇ ಭಾಗದಿಂದ ಅಸ್ಥಿತ್ವ ಹಕ್ಕನ್ನು ತೆಗೆದು ಹಾಕಿದ್ದು ----
A) 40^{ನೇ} ತಿದ್ದುಪಡಿ B) 42^{ನೇ} ತಿದ್ದುಪಡಿ
C) 44^{ನೇ} ತಿದ್ದುಪಡಿ D) 50^{ನೇ} ತಿದ್ದುಪಡಿ
- 36) 86th constitution amendment act is related to -----
A) Right to property B) Right to education
C) Right to Freedom D) Right to equality
86ನೇ ಸಂವಿಧಾನ ತಿದ್ದುಪಡಿ ಕಾಯಿದೆಯು ----- ಗೆ ಸಂಬಂಧಿಸಿದೆ
A) ಆಸ್ತಿಯ ಹಕ್ಕು
B) ಶಿಕ್ಷಣದ ಹಕ್ಕು
C) ಸ್ವಾತಂತ್ರ್ಯದ ಹಕ್ಕು
D) ಸಮಾನತೆಯ ಹಕ್ಕು
- 37) Who is the present governor of Karnataka ?
A) Thawarchand Gehlot B) N. Ravji
C) Vajubhaiwala D) H. R. Bhargava
ಕರ್ನಾಟಕದ ಪ್ರಸ್ತುತ ರಾಜ್ಯಪಾಲರು ಯಾರು ?

- A) ಧಾರ್ಮಿಕ ಚಂದ ಗೆ ಹಬ್ಬಿಸ್
B) N.C.C
C) ವಜ್ರಾಭಯವಾಲಾ
D) ಹೆಚ್. ಆರ್. ಭಾರದ್ವಾಜ್

37)

Who among the following in the state legislature decides whether a bill is a money bill or not ?

- A) Speaker of Legislative Assembly
B) Chief Minister
C) Chairman of Legislative Council
D) Leader of the Majority Party

ರಾಜ್ಯ ಶಾಸಕಾಂಗದಲ್ಲಿ ಒಂದು ಮುಖಂಡನು ಧನಮುಖಂಡ ಹೌದೋ ಅಥವಾ ಅದು

ನಿರ್ಧರಿಸುವುದು ಯಾರು ?

- A) ವಿಧಾನ ಸಭೆಯ ಸಭಾಪದ್ಯಕ್ಷರು
B) ಮುಖ್ಯ ಮಂತ್ರಿಗಳು
C) ವಿಧಾನ ಪರಿಷತ್ತಿನ ಅಧ್ಯಕ್ಷರು
D) ಮುಖ್ಯಮಂತ್ರಿಗಳು

38)

What is the maximum gap between the two sessions of state legislature ?

- A) 1 Month
B) 3 Months
C) 6 Months
D) 8 Months

ರಾಜ್ಯ ಶಾಸಕಾಂಗದ ಎರಡು ಅಧಿವೇಶನಗಳ ನಡುವಿನ ಗರಿಷ್ಠ ಅಂತರ ಎಷ್ಟು ?

- A) 1 ತಿಂಗಳು
B) 3 ತಿಂಗಳು
C) 6 ತಿಂಗಳು
D) 8 ತಿಂಗಳು

39)

What is the minimum age prescribed to become a member of legislative assembly ?

- A) 20-years
B) 18 years
C) 25 years
D) 30 years

ವಿಧಾನ ಸಭ ಸದಸ್ಯರಾಗಲು ನಿಗದಿಪಡಿಸಿದ ಕನಿಷ್ಠ ವಯೋಮಿತಿ ಎಷ್ಟು ?

- A) 20 ವರ್ಷ
B) 18 ವರ್ಷ
C) 25 ವರ್ಷ
D) 30 ವರ್ಷ

40)

Identify the incorrect statement :

- A) Members of the legislative assembly are directly elected by the people.
B) Legislative assembly is a lower house of the state legislature.
C) State council of ministers is collectively responsible to the legislative assembly
D) Legislative assembly is not subject to dissolution

ತಪ್ಪಾದ ಹೇಳಿಕೆಯನ್ನು ಗುರುತಿಸಿ.

- A) ವಿಧಾನಸಭೆಯ ಸದಸ್ಯರು ಪ್ರತ್ಯಕ್ಷ ಚುನಾವಣೆಯ ಮೂಲಕ ಚುನಾಯಿತರಾದರು.
B) ವಿಧಾನಸಭೆಯ ರಾಜ್ಯ ಶಾಸಕಾಂಗದ ಕೆಳಮನೆಯಾಗಿದೆ.
C) ರಾಜ್ಯ ಮಂತ್ರಿಮಂಡಲವು ಸಾಮೂಹಿಕವಾಗಿ ವಿಧಾನಸಭೆಗೆ ಜವಾಬ್ದಾರಿಯುತವಿದೆ.
D) ವಿಧಾನಸಭೆಯು ವಿರೋಧದ ಒಳಗಾಗುವುದಿಲ್ಲ.

Reg. No.

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Second Semester B.Sc. (NEP) Degree Examination, May/June 2025 (Repeater)

ENGLISH

Paper : Generic English - II

Time : 2 Hrs

Max. Marks : 60

I. Answer the following questions in a word, a phrase or a sentence each: (10x1=10)

1. Expand ZBNF.
2. Milkha Singh is also called as _____
3. Name the coaches of Milkha Singh.
4. Name any one principle of ZBNF.
5. Who is the writer of "on saying please"?
6. The poem "A prayer for my daughter" is addressed to _____
7. Where does the poet's daughter sleep?
8. Who is Maya Angelou?
9. "Still IRise" - who is the 'I' here?
10. What does the poet compare life's struggles to?

II. "A.G. Gardenes considers politeness over legal punishment" - Explain with reference to the essay "on saying please". (1x10=10)

OR

Describe the early life and struggles of Milkha Singh. How did his childhood experiences shape his career?

III. Critically appreciate the poem "Still IRise". (1x10=10)

OR

Explain the inspirational elements of the poem "How did you die"?

IV. A) Rewrite as directed. (5x2=10)

1. Write the synonyms of the following words. (02)
 - i) beautiful
 - ii) good
2. Define homophones / homonyms and give examples. (02)
3. Use the following words in your sentence. (02)
 - i) Check
 - ii) Cheque
4. Fill in the blanks with appropriate prefix or suffix for the given words in the brackets. (02)
 - i) The birthday _____ was good (celebrate)
 - ii) He is an _____ (Engine)
5. Match the words in column 'A' with their collocative words in column 'B' (02)

A		B
i) Cricket	-	runner / player / catcher
ii) Air	-	Stop / Station / Port

OR

- B) 1. Read the following passage and identify the conceptual terms related to the topic and list them (minimum Five) (05)

A computer is an electronic device that processes data and performs various tasks based on user instructions. It consists of software and hardware components that help in computing, storing information and communication. Computers are used in all walks of life. They operate using a central processing unit (CPU) memory & storage devices. The internet has further enhanced their performance, making tasks easier and faster. From simple calculations to complex programming, computers have revolutionized modern life.

2. A) "Listening is the basic skill to acquire all language skills" - Explain. (05)

OR

- B) What are the barriers of listening? Discuss the techniques to improve listening skills.

V. Answer any TWO of the following questions. (2x5=10)

- 1) Change into indirect speech.
 - a) Tarun said, 'I am singing'
 - b) Diya said, "Punit is a good dancer".
 - c) Ramya says, "do you like mango"?
 - d) Teacher said, "Keep quiet".
 - e) Students said, "What a great story"?
- 2) Write a imaginary dialogue between a student and a teacher regarding the preparation for exams.
- 3) What is communication? Explain the various types of communication.
- 4) Summarise the following passage and give suitable title.

Students life is a formative period marked by a blend of academic pursuits, social interactions, and personal growth, a time to learn actively explore interest and develop critical thinking' skills while navigating the challenges of balancing studies with extracurricular activities, fastening a sense of responsibility and building a foundation for future endeavours.

VI. Answer any TWO of the following questions. (2x5=10)

1. Write a speech on "Sports & health."
2. Write an essay on "Free facilities to the people and development of state".
3. Write a short paragraph on "the system of Exams"
4. Translate the following paragraph into Kannada or Hindi or Marathi or Urdu language
It is necessary to lead a healthy life to avoid any kind of disease to maintain a healthy life, a person can go running or take a morning walk. We have to exercise daily, and keep healthy food habits. Avoids junk foods. It is also very important to be away from smoking and drinking. This will help us to be happy and healthy.

Reg. No.

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**Second Semester B.Sc. (NEP) Degree Examination, May/June 2025
(Repeater)**

ENGLISH

Paper : Generic English - II

Time : 2 Hrs

Max. Marks : 60

I. Answer the following questions in a word, a phrase or a sentence each: (10x1=10)

1. Expand ZBNF.
2. Milkha Singh is also called as _____
3. Name the coaches of Milkha Singh.
4. Name any one principle of ZBNF.
5. Who is the writer of "on saying please"?
6. The poem "A prayer for my daughter" is addressed to _____
7. Where does the poet's daughter sleep?
8. Who is Maya Angelou?
9. "Still IRise" - who is the 'I' here?
10. What does the poet compare life's struggles to?

II. "A.G. Gardenes considers politeness over legal punishment" - Explain with reference to the essay "on saying please". (1x10=10)

OR

Describe the early life and struggles of Milkha Singh. How did his childhood experiences shape his career?

III. Critically appreciate the poem "Still IRise". (1x10=10)

OR

Explain the inspirational elements of the poem "How did you die"?

IV. A) Rewrite as directed. (5x2=10)

1. Write the synonyms of the following words. (02)
 - i) beautiful
 - ii) good
2. Define homophones / homonyms and give examples. (02)
3. Use the following words in your sentence. (02)
 - i) Check
 - ii) Cheque
4. Fill in the blanks with appropriate prefix or suffix for the given words in the brackets. (02)
 - i) The birthday _____ was good (celebrate)
 - ii) He is an _____ (Engine)
5. Match the words in column 'A' with their collocative words in column 'B' (02)

A		B
i) Cricket	-	runner / player / catcher
ii) Air	-	Stop / Station / Port

OR

- B) 1. Read the following passage and identify the conceptual terms related to the topic and list them (minimum Five) (05)

A computer is an electronic device that processes data and performs various tasks based on user instructions. It consists of software and hardware components that help in computing, storing information and communication. Computers are used in all walks of life. They operate using a central processing unit (CPU) memory & storage devices. The internet has further enhanced their performance, making tasks easier and faster. From simple calculations to complex programming, computers have revolutionized modern life.

2. A) "Listening is the basic skill to acquire all language skills" - Explain. (05)

OR

- B) What are the barriers of listening? Discuss the techniques to improve listening skills.

V. Answer any TWO of the following questions. (2x5=10)

- 1) Change into indirect speech.
 - a) Tarun said, 'I am singing'
 - b) Diya said, "Punit is a good dancer".
 - c) Ramya says, "do you like mango"?
 - d) Teacher said, "Keep quiet".
 - e) Students said, "What a great story"?
- 2) Write a imaginary dialogue between a student and a teacher regarding the preparation for exams.
- 3) What is communication? Explain the various types of communication.
- 4) Summarise the following passage and give suitable title.

Students life is a formative period marked by a blend of academic pursuits, social interactions, and personal growth, a time to learn actively explore interest and develop critical thinking skills while navigating the challenges of balancing studies with extracurricular activities, fastening a sense of responsibility and building a foundation for future endeavours.

VI. Answer any TWO of the following questions. (2x5=10)

1. Write a speech on "Sports & health".
2. Write an essay on "Free facilities to the people and development of state".
3. Write a short paragraph on "the system of Exams"
4. Translate the following paragraph into Kannada or Hindi or Marathi or Urdu language
It is necessary to lead a healthy life to avoid any kind of disease to maintain a healthy life, a person can go running or take a morning walk. We have to exercise daily, and keep healthy food habits. Avoids junk foods. It is also very important to be away from smoking and drinking. This will help us to be happy and healthy.

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BSC - II Semester (SEP Regular) Examination, June/July - 2025

ವಿಷಯ : ಅವಶ್ಯಕ ಕನ್ನಡ

ಸಾಹಿತ್ಯ ಸೊಬಗು-೨

ಅವಧಿ : 3 ಗಂಟೆ

ಒಟ್ಟು ಅಂಕಗಳು : 80

Instruction To the Candidates: ಭಾಷೆ ಮತ್ತು ಬರಹ ಶುದ್ಧಿಗೆ ಗಮನಕೊಡಲಾಗುವುದು.

ಪ್ರ- 1 ಬೇಕಾದ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.

03 x 10=30

- ಗೋಪಾಲ ಕೃಷ್ಣ ಅಡಿಗರ 'ಭೂಮಿಗೀತ'ಕಾವ್ಯವು ಭೂತಾಯಿ ವರ್ಣನೆಯಾಗಿದೆ. ವಿವರಿಸಿ.
- ಬಡವರ ಶೋಷಣೆಯನ್ನು 'ಮಣ್ಣು ಸೇರಿತು ಬೀಜ'ಕಥೆ ಹೇಗೆ ಪ್ರತಿಪಾದಿಸಿದೆ. ಚರ್ಚಿಸಿ.
- 'ಧರ್ಮದ ಬಲೆ ಬೀಸಿದಾಗ'ಕಥೆಯು ಸ್ತ್ರೀ ಅನ್ಯಾಯದ ಭವಾವಳಿಯಾಗಿದೆ. ವಿವರಿಸಿ.
- 'ಶೂದ್ರ ತಪಸ್ವಿನಾಟಕ ವಿಮರ್ಶೆ' ಲೇಖನ ಕುವೆಂಪು ಚಿಂತನೆಯನ್ನು ಹೇಗೆ ಪ್ರತಿಪಾದಿಸಿದೆ. ಚರ್ಚಿಸಿ.
- ಪ್ರೀತಿ ಒಂದು ಕಲೆಯೇ? ಎರಿಕ್ ಪ್ರಾಂ ಅವರ ವಿಚಾರಗಳನ್ನು ಪ್ರತಿಪಾದಿಸಿರಿ.

ಪ್ರ- 2 ಬೇಕಾದ ನಾಲ್ಕಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

4x5=20

- ದ.ರಾ.ಬೇಂದ್ರೆ
- ವರ್ಷಬೈರವ
- ಒಂದು ಮುಂಜಾವು
- ಯಾತಕ್ಕೆ ಮಳೆ ಹೋದವೋ?
- ಪ್ರೀತಿ ಇಲ್ಲದ ಮೇಲೆ
- ಯು.ಆರ್. ಅನಂತಮೂರ್ತಿ

ಪ್ರ- 3 ಬೇಕಾದ ಮೂರಕ್ಕೆ ಸಂದರ್ಭದೊಡನೆ ಸ್ಪಷ್ಟೀಕರಿಸಿ.

3x5=15

- "ಮೈಯಲ್ಲ ಹೆರಿಗೆ ಮನೆ ಮಸಣ"
- "ಎದ್ದು ಕೂಳು ತಿನ್ನಂಗಿದ್ದು ತಿನ್ನು,ಯಾಕುಂತಿದ್ದಿ ಹದ್ದು ಕುಂತಂಗ"
- ನಲಕ್ಕೆ ಹಸಿರು ಮೂಡೀತು ಹೇಗೆ?

d) "ಮೂಡಣದಿ ನೇಸರನ ನಗೆಮೊಗದ ಶ್ರೀಕಾಂತಿ

e) "ಕಪ್ಪಗಿನ ಕಣ್ಣವಳೆ, ಕೈ ತಟ್ಟಿ ನಕ್ಕವಳೆ"

ಪ್ರ- 4 ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿ.

15x1=15

- 1) ಗೋಪಾಲಕೃಷ್ಣ ಅಡಿಗರ ಜನ್ಮಸ್ಥಳ ಯಾವುದು?
- 2) ಗಡ್ಡದ ಬಸಣ್ಣನ ಮೂರನೇ ಹೆಂಡತಿಯ ಹೆಸರೇನು?
- 3) ಅಮರೇಶ ನುಗಡೋಣಿಯ ಜನ್ಮಸ್ಥಳ ಯಾವುದು?
- 4) 'ಇಳೆ ಎಂದರೆ ಬರಿ ಮಣ್ಣಲ್ಲ' ಎಂದು ಹೇಳಿದ ಕವಿ ಯಾರು?
- 5) ಕುವೆಂಪು ಅವರ ಹುಟ್ಟೂರು ಯಾವುದು?
- 6) ಚನ್ನವೀರ ಕಣವಿ ಅವರು ಎಂ.ಎ. ಪದವಿ ಪಡೆದ ವಿಶ್ವವಿದ್ಯಾಲಯ ಯಾವುದು?
- 7) 'ಕಾವ್ಯಾಕ್ಷಿ' ಸಂಕಲನದ ಕವಿ ಯಾರು?
- 8) ಯು.ಆರ್. ಅನಂತಮೂರ್ತಿಯವರು ಯಾವ ವಿಶ್ವವಿದ್ಯಾಲಯದಿಂದ ಪಿಎಚ್.ಡಿ ಪದವಿ ಪಡೆದಿದ್ದರು?
- 9) ಜಿ.ಎಸ್. ಶಿವರುದ್ರಪ್ಪನವರ ಯಾವ ಕೃತಿಗೆ ಕೇಂದ್ರ ಸಾಹಿತ್ಯ ಅಕಾಡೆಮಿ ಪ್ರಶಸ್ತಿ ದೊರೆತಿದೆ?
- 10) 'ಸಂಸಾರ' ಕಾದಂಬರಿಯ ಲೇಖಕರು ಯಾರು?
- 11) "ದೀಪದ ಹೆಜ್ಜೆ" ಕೃತಿಯ ಕರ್ತೃ ಯಾರು?
- 12) "ಅಕ್ಷರ ಹೊಸಕಾವ್ಯ" ಸಂಕಲನವನ್ನು ಸಂಪಾದಿಸಿದವರು ಯಾರು?
- 13) ಎರಿಕ್ ಫ್ರಾಂ ಎಲ್ಲಿ ಜನಿಸಿದರು?
- 14) ಜಿ.ಎಸ್. ಅಮೂರ ಅವರ ಪೂರ್ಣಹೆಸರೇನು?
- 15) "ಅರ್ಧರಾತ್ರಿಯಲ್ಲಿ ಹುಟ್ಟಿದ ಕೂಸು" ಕೃತಿಯ ಲೇಖಕಿಯಾರು?

Reg No

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B.Sc. II Semester (SEP Regular) Examination, June/July - 2025**Subject: Physics**
Electricity and Magnetism

Duration Of Paper: 3 Hrs.

Maximum Marks :80

Instruction to Candidates: 1. Calculator is allowed to solve the problems
2. Write intermediate steps

Q.No.1) Answer Any TEN of the Following

(10x2=20)

- What are scalars & vectors?
- State Gauss divergence theorem.
- If $\vec{A} = 3\hat{i} - \hat{j} + 2\hat{k}$ and $\vec{B} = \hat{i} - 2\hat{j} + 2\hat{k}$. Find the scalar product of two vectors.
- Write down the expression for time constant of RC circuit.
- State Kirchhoff's current law.
- A coil of self-inductance 50H and resistance 100Ω are joined in series to a 2V battery. Calculate the time constant and maximum current.
- State Biot Savart's law.
- State the principle of Helmholtz galvanometer.
- Define Lenz's law.
- Define charge sensitivity.
- What are dielectrics?
- Write the relation between dielectric constant and electric susceptibility.

Q.No.2) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

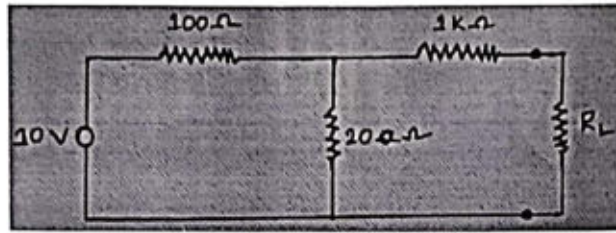
- Define divergence of vector field and explain physical interpretation of divergence of a vector field. 10
- Check, whether the vector $12\hat{i} + 4\hat{j} - 6\hat{k}$ is parallel or perpendicular to vector $6\hat{i} + 2\hat{j} - 3\hat{k}$. 5

Or

- State and prove Poynting theorem. 10
- Derive the general plane-wave equation in free space. 5

Q.No.3) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'

- a) State and prove Thevenin's theorem. 10
 b) What is the Norton's equivalent of the network shown in fig. 5



Or

- c) Derive the expressions for charging and discharging of a capacitor through RC circuit. 10
 d) An emf of 10V is applied to a circuit having a resistance of 10Ω and an inductance of $0.5H$. Find the time required by the current to attain 63.2% of its final value. What is the time constant? 5

Q.No.4) Answer Any ONE full questions 'a' & 'b' or 'c' & 'd'

- a) Derive the expressions for impedance & current in series LCR circuit using j operator. 10
 b) Write a note on LCR series and parallel resonance. 5
 Or
 c) Explain De-Sauty's bridge with necessary theory. 10
 d) A series resonant has $R=60\Omega$, $L=1H$ and $C=20\mu F$. Calculate the resonant frequency. 5

Q.No.5) Answer Any ONE full questions 'a' & 'b' or 'c' & 'd'

- a) With principle & theory give the construction & working of a ballistic galvanometer. 10
 b) Write any five applications of CRO 5
 Or
 c) Explain the boundary conditions for \vec{E} , \vec{D} and \vec{P} 10
 d) $0.2\mu F$ capacitor is charged to 4 Volt, it gives a deflection of 10cm when discharged through a ballistic galvanometer. If the time period of the galvanometer is 10 sec, calculate the current sensitivity. 5

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B.Sc. II Semester (NEP Repeater) degree Examination, June/July - 2025**Subject: Physics****Electricity and Magnetism****Duration of Paper: 2 Hrs.****Maximum Marks :60**

Instruction to the Candidates: 1) Calculators are allowed
2) Write Intermediate steps.

Q.No.1) Answer Any SIX of the Following**(6x2=12)**

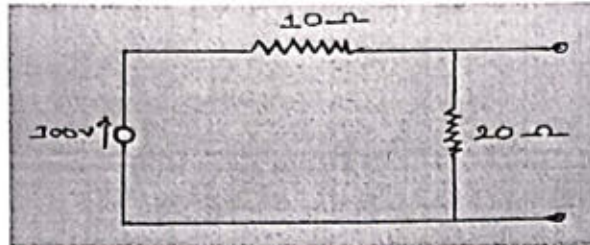
- What is vector quantity?
- State Stoke's theorem.
- State Thevenin theorem.
- Calculate the time constant of RL circuit with $R=10\Omega$ and $L=50H$.
- State Ampere Circuit law.
- Define quality factor?
- Write any two applications of CRO.
- What are polar molecules?

Q.No.2) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

- Explain physical interpretation of divergence of vector field. (8 M)
 - Find the unit vector normal to the surface $x^2+y^2=z^2$ at point (1,2,5). (4M)
- OR**
- State and prove Poynting theorem. (8M)
 - Give the physical significance of curl. (4M)

Q.No.3) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

- a) State and prove Norton's theorem. (8M)
- b) Find the open circuited voltage and Thevenin resistance of the two terminal network shown in figure. (4M)



OR

- c) Give the theory of growth and decay of current in RL circuit (8M)
- d) A condenser of capacitor $1 \times 10^{-6} \text{ F}$ is discharged through $1 \times 10^6 \Omega$ resistance. Find the time in which the charge on it falls to 36.8% of its initial value. (4M)

Q.No.4) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

- a) Give the construction, working and theory of Helmholtz galvanometer. (8M)
- b) Distinguish between dia and paramagnetic materials. (4M)

OR

- c) Explain De-sauty's bridge with necessary theory. (8M)
- d) Write down comparison between series resonance and parallel resonance. (4M)

Q.No.5) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

- a) Give the theory of ballistic galvanometer and derive an expression for the charge sensitivity. (8M)
- b) Write any four uses of CRO. (4M)

OR

- c) Explain the boundary conditions for \vec{E} , \vec{D} and \vec{P} . (8M)
- d) A current sensitivity of a ballistic galvanometer is $4.4 \times 10^{-9} \text{ A}$ for a deflection of 1mm on a scale kept at distance of 1M. Calculate the charge sensitivity of the galvanometer, if the periodic time of the coil is 3.14sec. (4M)

**B.Com/BBA/BCA/BSW/B.Sc/BA II Semester (SEP Regular) Examination,
June/July-2025**

Subject: Hindi Paper: AECC

१)काव्य कलश (कविता संकलन) २) पत्रलेखन. मुहावरें और कहावतें

Duration of Paper: 3 Hrs.

Maximum Marks :80

Instruction to the Candidate:

प्रश्न.१ किन्ही दस प्रश्नों के उत्तर एक वाक्य या वाक्यांश में लिखिए

2x10=20

- १ 'जनतंत्र का जन्म' इस कविता में ३३ करोड़ जनता ऐसा उल्लेख क्यों किया गया है?
- २ कवि पंत ने मनुष्य को किसका दास कहा है?
- ३ कवयित्री के अनुसार बालिका को कौन जान सकता है?
- ४ नव निर्माण की प्रेरणा किस कविता में दी गई है और इसके कवि कौन है?
- ५ खुदको पृथ्वी का प्राचीनतम नागरिक कौन मानता है?
- ६ कोशिश करने की प्रेरणा देनेवाली कविता कौनसी है तथा इसके कवि कौन है?
- ७ कवि ने आज का दिन ऐतिहासिक क्यों माना है? एक उदाहरण लिखिए?
- ८ धिन तो नहीं आती है? यह प्रश्न किससे पूछा गया है?
- ९ बौना किसे कहा गया है?
- १० बच्चों के बारे में चिंता किस कविता में व्यक्त कि गई है, तथा इसके कवि कौन हैं?
- ११ रामराज्य तथा साकेत का उल्लेख किस कविता में आया है, तथा इसके कवि कौन हैं?
- १२ किस कविता में लड़कियों को सम्बोधित किया गया है, और इसकी कवयित्री कौन हैं?

प्रश्न.२ किन्ही ३ की सप्रसंग व्याख्या कीजिए

3x5=15

- १ "जो है समर्थ, जो शक्तिमान
जीवन का है अधिकार उसे"
- २ "एक चिड़िया चोंच में
तिनका लिए जा रही है
वह सहज में ही पवन
उंचास को नीचा दिखाती"
- ३ "ओ अच्छी लड़कियों
अब किसीका नहीं
संभालो सिर्फ अपना मान
बे लगाम नाचने दो अपनी ख्वाहिशों को"
- ४ "लहरों से डरकर नौका पार नहीं होती

कोशिश करनेवालों की हार नहीं होती"

- ५ "अगर आज कहीं नहीं हुई कन्या भृण हत्या
तो आज का दिन ऐतिहासिक हो सकता है"

प्रश्न.३ किन्हीं दो प्रश्नों के उत्तर लिखिए

2x10=20

- १ 'बालिका का परिचय' कविता का सारांश लिखिए?
- २ 'ओ अच्छी लडकिओ' कविता द्वारा कवयित्री नारी सबलीकरण का संदेश देना चाहती है,
स्पष्ट कीजिए?
- ३ 'बौनों कि दुनिया' कविता का सारांश लिखिए?
- ४ 'कोशिश करनेवालों की हार नहीं होती' कविता द्वारा कवि क्या संदेश देना चाहते हैं?

प्रश्न.४ किन्हीं दो पर टिप्पणी लिखिए

2x5=10

- १ 'जीवन का अधिकार' कविता में कवि का संदेश
- २ पानी की प्रार्थना क्या है?
- ३ धिन तो नहीं आती है?
- ४ गौतम एक बार फिर आओ

प्रश्न.५ (A) किसी एक प्रश्न का उत्तर लिखिए

10x1=10

- १ मित्र को गृह प्रवेश के लिए निमंत्रण पत्र लिखिए?
- २ व्यापारिक छूट (Discount) कम दिए जाने पर साहित्यायन, लातूर की और से लोकभारती
प्रकाशन, इलाहाबाद को शिकायती पत्र लिखिए?

प्रश्न.५ (B) किन्हीं ५ मुहावरों/कहावतों का अर्थ लिखिए

5x1=5

- १ ईद का चांद
- २ घोड़े बेचकर सोना
- ३ टांग अडाना
- ४ नाक में दम करना
- ५ एक अनार सौ बीमार
- ६ खोदा पहाड़ निकला चूहा
- ७ जो गरजते हैं वो बरसते नहीं

B.Sc. II Semester (SEP REGULAR) Examination, June/July - 2025**Subject: Chemistry****Chemistry 2T****Duration Of Paper: 3 Hrs.****Maximum Marks :80**

Instruction To the Candidates: 1) All questions are compulsory.

2) Draw neat diagrams and give equations wherever necessary.

1) Answer Any Ten questions.**(10x2=20)**

- What is lattice energy? Mention its significance
- Write two general characteristics of covalent compounds
- Mention the hybridization of molecules having tetrahedral, Trigonal pyramidal shapes.
- What are confirmation and configuration.
- What are enantiomers? Give example
- What is racemic mixture? Mention its optical property.
- Mention the types of solids with example
- What is viscosity? Mention its unit
- What is surface tension? Mention its variation with temperature.
- Mention the spectral region and requirement of vibrational spectra.
- Give the diagram of vibrational energy levels of diatomic harmonic oscillator.
- Mention the vibrational degrees of freedom for an atomic linear and nonlinear molecule

2. Answer any three questions.**(3x 5= 15)**

- Calculate the Heat of formation of NaCl using the Born-Haber cycle from following data.

Heat of sublimation of sodium = 109.8 KJ/mol

Dissociation energy of chlorine = 227.6 KJ/ mol

Ionization energy of sodium gas = 489.5 KJ/mol

Electron affinity for chlorine = -351.4 KJ/ mol

Lattice energy of sodium chloride = -778.5 KJ/ mol

- Discuss the sp^2 hybridization and shape of BF_3 molecule
- What are bonding and antibonding molecular orbitals? Write their characteristics.
- Give the molecular orbital energy level diagram of nitrogen molecule and write its molecular orbital configuration, magnetic property.

3. Answer any three questions. (3 X 5 = 15)

- What is geometrical isomerism? Discuss the conditions to show geometrical isomerism with examples?
- Assign the E & Z notations for following with explanation of rules
 - 2-butene
 - Butanedioc acid
- Assign the R and S notations for 2-butanol with explanation.
- Write about the following with examples
 - Diastereomers
 - meso compounds

4. Answer any three questions. (3 X 5 = 15)

- Write about the following
 - Crystal Centre of symmetry and plane of symmetry
 - Bragg's law
- Bring out the definition of parachor from Macleod's equation.
- How viscosity of liquid is determined by Ostwald's viscometer?
- The refractive index and density of carbon tetrachloride are 1.458 and 1.584 gm/cc respectively. Calculate the specific refraction and molar of CCl_4 . (Mol. Weight of CCl_4 = 153)

5. Answer any three questions. (3 X 5 = 15)

- Write the following with reference to rotational spectra
 - Spectral region and range
 - Criteria for spectra
 - Molecules showing and not showing spectra
 - Rotational energy expression
 - Selection rules, lines spacing
- Derive the expression $I = \mu r^2$ for a rigid diatomic rotator.
- The rotational spectrum of gaseous HCl has a series of equidistant lines separated by 21.18 cm^{-1} calculate the following of HCl
 - Rotational constant
 - Moment of Inertia
 - Bond length

($\mu = 1.627 \times 10^{-27} \text{ kg}$, $h = 6.626 \times 10^{-34} \text{ JS}$, $C = 3 \times 10^{10} \text{ cm/s}$)
- The fundamental vibrational frequency of HCl is $8.964 \times 10^{13} \text{ S}^{-1}$. Calculate the zero-point energy and force constant of HCl molecule. ($\mu = 1.626 \times 10^{-27} \text{ kg}$)

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B.Sc. II Semester (SEP Regular) Examination, June/July - 2025
Subject: Calculus and 3- Dimensional Geometry

Duration Of Paper: 3 Hrs.

Maximum Marks :80

- Instructions to Candidates : 1. Answer any ten questions from Q.no. 1
 2. Answer any three questions from Q.no. 2,3,4 and 5

Q.no.1 Answer any TEN questions

(10x2=20)

- If $r = a(1 + \sin\theta)$, then find ϕ .
- Define polar subtangent and polar subnormal
- Write the coordinates of center of curvature
- Show that $\lim_{(x,y) \rightarrow (0,0)} \frac{xy}{x^2+y^2}$ does not exist
- Find the total derivative of u w.r.t 't' when $u = e^x \sin y$, where $x = \log t$, $y = t^2$
- Define Jacobian of u, v, w w.r.t the independent variables x, y, z .
- Write the steps to find a reduction formula for $\int \tan^n x \, dx$
- Find a reduction formula for $\int x^m (\log x)^n \, dx$
- Evaluate: $\int_0^{\pi/2} \cos^8 x \, dx$
- Find the center & radius of the sphere $x^2 + y^2 + z^2 - 2y - 4z - 11 = 0$
- Define orthogonal sphere
- Define great circle

Q.no.2. Answer any three of the following

(3x5=15)

- Define the angle between the radius vector and the tangent to the curve $r = f(\theta)$.
- Find the angle of intersection of two curves $r = \sin\theta + \cos\theta$ & $r = 2\sin\theta$
- Define the radius of curvature in parametric form
- Show that the pedal equation of the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ is $\frac{a^2 b^2}{p^2} + r^2 = a^2 + b^2$.

Q.no.3. Answer any three of the following

(3x5=15)

- If $z = \tan^{-1} \left(\frac{y}{x} \right)$, verify that $\frac{\partial^2 z}{\partial x^2} + \frac{\partial^2 z}{\partial y^2} = 0$
- State & prove generalized Euler's theorem on homogeneous function of two variables.
- If $u = f(y-z, z-x, x-y)$, then prove that $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z} = 0$

- d) If $u^3 + v^3 + w^3 = x + y + z$, $u^2 + v^2 + w^2 = x^3 + y^3 + z^3$ & $u+v+w=x^2 + y^2 + z^2$ then prove that $\frac{\partial(u,v,w)}{\partial(x,y,z)} = \frac{(x-y)(y-z)(z-x)}{(u-v)(v-w)(w-u)}$

Q.no.4. Answer any three of the following

(3x5=15)

- a) If $I_n = \int_0^{\pi/4} \cot^n x \, dx$, show that $I_n + I_{n-2} = \frac{1}{n-1}$. further, evaluate I_3
- b) Evaluate $\int_0^{\pi/2} \sin^n x \, dx$ for all the odd & even integral values of n . completely,
- c) Obtain the reduction formula for $\int \cos^m x \sin x \, dx$
- d) Evaluate : $\int_0^{\infty} \frac{x^4}{(1-x^2)^4} \, dx$

Q.no.5. Answer any three of the following

(3x5=15)

- a) Find the equation of the sphere through the points (4,-1,2), (0,-2,3) (1,5,-1) & (2,0,1)
- b) Find the equation to the sphere for which the circle of intersection of $x^2+y^2+z^2+7y-2z+2=0$ and $2x+3y+4z=8$ is a great circle.
- c) Derive the equation of the tangent plane to the sphere $x^2 + y^2 + z^2 + 2ux + 2vy + 2wz + d = 0$ at a point (x_1, y_1, z_1)
- d) Find the equation of the sphere through the circle $x^2 + y^2 + z^2 - 2x + 3y - 4z + 6 = 0$, $3x - 4y + 5z - 15 = 0$ & Cutting the sphere $x^2 + y^2 + z^2 + 2x + 4y - 6z + 11 = 0$ orthogonally

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B.Sc. II Semester (SEP REGULAR) Examination, June/July - 2025**Subject: Chemistry****Chemistry 2T****Duration Of Paper: 3 Hrs.****Maximum Marks :80**

Instruction To the Candidates: 1) All questions are compulsory.

2) Draw neat diagrams and give equations wherever necessary.

1) Answer Any Ten questions.**(10x2=20)**

- What is lattice energy? Mention its significance
- Write two general characteristics of covalent compounds
- Mention the hybridization of molecules having tetrahedral, Trigonal pyramidal shapes.
- What are confirmation and configuration.
- What are enantiomers? Give example
- What is racemic mixture? Mention its optical property.
- Mention the types of solids with example
- What is viscosity? Mention its unit
- What is surface tension? Mention its variation with temperature.
- Mention the spectral region and requirement of vibrational spectra.
- Give the diagram of vibrational energy levels of diatomic harmonic oscillator.
- Mention the vibrational degrees of freedom for an atomic linear and nonlinear molecule

2. Answer any three questions.**(3x 5= 15)**

- Calculate the Heat of formation of NaCl using the Born-Haber cycle from following data.
 Heat of sublimation of sodium = 109.8 KJ/mol
 Dissociation energy of chlorine = 227.6 KJ/ mol
 Ionization energy of sodium gas = 489.5 KJ/mol
 Electron affinity for chlorine = -351.4 KJ/ mol
 Lattice energy of sodium chloride = -778.5 KJ/ mol
- Discuss the sp^2 hybridization and shape of BF_3 molecule
- What are bonding and antibonding molecular orbitals? Write their characteristics.
- Give the molecular orbital energy level diagram of nitrogen molecule and write its molecular orbital configuration, magnetic property.

3. Answer any three questions. (3 X 5 = 15)

- What is geometrical isomerism? Discuss the conditions to show geometrical isomerism with examples?
- Assign the E & Z notations for following with explanation of rules
 - 2-butene
 - Butanedioc acid
- Assign the R and S notations for 2-butanol with explanation.
- Write about the following with examples
 - Diastereomers
 - meso compounds

4. Answer any three questions.

(3 X 5 = 15)

- Write about the following
 - Crystal Centre of symmetry and plane of symmetry
 - Bragg's law
- Bring out the definition of parachor from Macleod's equation.
- How viscosity of liquid is determined by Ostwald's viscometer?
- The refractive index and density of carbon tetrachloride are 1.458 and 1.584 gm/cc respectively. Calculate the specific refraction and molar of CCl_4 . (Mol. Weight of CCl_4 = 153)

5. Answer any three questions.

(3 X 5 = 15)

- Write the following with reference to rotational spectra
 - Spectral region and range
 - Criteria for spectra
 - Molecules showing and not showing spectra
 - Rotational energy expression
 - Selection rules, lines spacing
- Derive the expression $I = \mu r^2$ for a rigid diatomic rotator.
- The rotational spectrum of gaseous HCl has a series of equidistant lines separated by 21.18 cm^{-1} calculate the following of HCl
 - Rotational constant
 - Moment of Inertia
 - Bond length

($\mu = 1.627 \times 10^{-27} \text{ kg}$, $h = 6.626 \times 10^{-34} \text{ JS}$, $C = 3 \times 10^{10} \text{ cm/s}$)
- The fundamental vibrational frequency of HCl is $8.964 \times 10^{13} \text{ S}^{-1}$. Calculate the zero-point energy and force constant of HCl molecule. ($\mu = 1.626 \times 10^{-27} \text{ kg}$)

Reg. No.

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B.Sc. II Semester (SEP Regular) Examination, June/July-2025
Subject: Basic English

Duration Of Paper: 3 Hrs.

Maximum Marks :80

Instruction To the Candidate: Read the questions carefully, write answers legibly and clearly.

Q.1 Answer any TEN following questions:**(10X2=20)**

1. What is Orwell's main criticism of modern English writing?
2. Where did Baldeo's family live?
3. What was Milkha Singh's primary mission in the years 1956 and 1957?
4. How many research papers did Albert Einstein write on topics which an ordinary man would never dream of?
5. What does the phrase 'forest fire' symbolize in the poem 'Forest Fire'?
6. What was Miss Pushpa's father?
7. Define 'Active voice' and give an example.
8. What is 'Paragraph writing'?
9. Name at least four punctuations.
10. Mention any two types of presentation.
11. Mention any two aspects of body language.
12. What is 'TED Talk'?

Q.2.1 Answer any ONE of the following:**(1X10=10)**

- a) Sketch the character of Baldeo.
- b) Explain George Orwell's ideas on Politics and the English Language.

2.2 Write a short note on any ONE of the following:**(1X5=5)**

- a) Milkha Singh's hard work and dedication.
- b) Human behavior in "On a Talk in a Bus."

Q.3.1 Answer any ONE of the following questions:**(1X10=10)**

- a) Critically appreciate the poem 'Einstein's Academic Aspirations'.
- b) Explain the influence of Indian language on English as seen in the poem 'Good-bye Party for Miss Pushpa T.S.'

3.2 Write a short note on any ONE of the following:**(1X5=5)**

- a) Symbolism in 'Is the Master at Home'.
- b) Themes of Destruction and Chaos in 'Forest Fire'.

Q.4.1 Rewrite as Directed:**(5X1=5)**

1. Open the door. (change it into passive voice)
2. It is a wonderful monument. (Change into Exclamatory)
3. Ravi is too busy to talk now. (Remove too--- to)
4. The coffee is too hot to drink. (Use enough)
5. Unless you study hard, you will not pass the exam. (Use if)

4.2 Rewrite as directed:**(5x1=5)**

1. A million people waited in the sun. (Frame WH question as to get underlined word as answer.)
2. The plough was invented later. (Frame WH question as to get underlined word as answer.)
3. Somesh comes to college by bus. (Frame WH question as to get underlined word as answer.)

4. he said where are you going (Use the correct punctuations)
5. She said to me did you attend the class. (Use the correct punctuation)
- 4.3 **Rearrange the following sentences to form a meaningful paragraph:** (5x1=5)
 1. In spite of the delay, she was not upset, as it was quite common.
 2. Juliane boarded the plane at Lima in order to go to Pucallpa.
 3. Finally, it took off at 11.15.a.m. four hours late.
 4. After the take-off, she saw the tops of the Andes mountains.
 5. But the plane did not take off at the scheduled time.
- Q.5 **Answer any THREE of the following:** (3x5=15)
 1. Explain the types of presentation.
 2. Why is body language important in effective communication?
 3. How does Surabhi Gautam express her ideas on 'How She Became an IAS Officer'.
 4. Explain Sudha Murty's ideas on 'How to Lead a Balanced Life'.
 5. Capt. Raghu Raman's views on 'Diversity is the New Nationality'.

Q. P. Code: 2S2XXXC02T

Q. P. Code: 2S2XXXC02T

- 13) A High Court Judge writes his letter of resignation to which of the following?
A) President
B) The Chief Justice of India
C) Chief Justice of High Court
D) Governor
- 14) The state council of ministers are collectively responsible to which among the following?
A) President
B) Governor
C) Legislative Assembly
D) Rajya Sabha
- 15) Who among the following does remove the governor of a state?
A) Chief Minister
B) Prime Minister
C) President
D) None of the above
- 16) Which among the following is not appointed by governor?
A) Advocate General
B) State Election Commissioner
C) Chief Justice of High Court
D) Advocate
- 17) Who is responsible for conducting panchayat elections as per the 73rd amendment act?
A) Election Commission of India
B) State Government
C) Union Government
D) State Election Commission
- 18) What is the minimum age to contest elections to panchayats?
A) 18 years
B) 21 years
C) 23 years
D) 25 years
- 19) The 73rd constitutional amendment act added which schedule to the constitution?
A) Tenth schedule
B) Eleventh schedule
C) Twelfth schedule
D) Fourteenth schedule
- 20) What is the main purpose of panchayat raj system?
A) To increase agricultural production.
B) To create employment opportunities.
C) To create political awareness.
D) To make people participate in developmental administration.
- 21) Which state was the first to implement the panchayat raj system?
A) Andhra Pradesh
B) West Bengal
C) Rajasthan
D) Tamil Nadu
- 22) Which article of the Indian Constitution deals with the reservation of seats in panchayats?
A) 243 F
B) 243 D
C) 243 C
D) 243 E
- 23) Which of the following is not a part of the three-tier panchayat raj system?
A) Gram panchayat
B) Panchayat Samiti
C) Zila panchayat
D) Panchayat Raj
- 24) Who is called the 'father of local self-government' in India?
A) Lord Munro
B) Lord Curzon
C) Lord Mayo
D) Lord Rippon
- 25) 'Local government' is subject mentioned in -
A) Union list
B) State list

Q. P. Code: 2S2XXXXC02T

Q. P. Code: 2S2XXXXC02T

- 26) Concurrent list ----- ಯಲ್ಲಿ ಸೇರುವ ವಿಷಯವಾಗಿದೆ.
ಸೇರಿದ್ದು ಪಟ್ಟಿ
A) ರಾಜ್ಯ ಪಟ್ಟಿ
B) ರಾಜ್ಯ ಪಟ್ಟಿ
C) ಸಂಸತ್ತಿನ ಪಟ್ಟಿ
D) ಸಂಸತ್ತಿನ ಯಾವುದೂ ಅಲ್ಲ
- 27) Panchayats are given constitutional status by -----
A) 72nd Amendment
B) 73rd Amendment
C) 74th Amendment
D) 75th Amendment
- 28) The chief minister is appointed by -----
A) Governor
B) Prime Minister
C) President
D) Chief Justice of High Court
- 29) The oath of office is administered to the governor by the -----
A) President
B) Chief Justice of India
C) Speaker of Legislative Assembly
D) Chief Justice of High Court
- 30) The chief minister of a state is member of -----
A) NITI Aayog
B) Finance Commission
C) National Development Council
D) Election Commission

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- 31) A minister in the state government is individually responsible to -----
A) Legislative Council
B) Legislative Assembly
C) Chief Minister
D) Governor
- 32) The tenure of the legislative assembly is :
A) 4 Years
B) 5 years
C) 6 years
D) 3 years
- 33) Which amendment inserted the fundamental duties in to the constitution of India ?
A) 40th Amendment
B) 42nd Amendment
C) 44th Amendment
D) 50th Amendment
- 34) The right to property was removed from Part III of Indian constitution by -----
A) 40th Amendment
B) 42nd Amendment
C) 44th Amendment
D) 50th Amendment
- 35) 86th constitution amendment act is related to -----
A) Right to property
B) Right to education
C) Right to Freedom
D) Right to equality
- 36) Who is the present governor of Karnataka ?
A) Thawarchand Gehlot
B) N. Rav
C) Vajubhaiwala
D) H. R. Bhargava

6



Q. P. Code: 2S2XXXXC02T

- A) ಧಾರ್ಮಿಕ ಚಂದ ಗೆ ಹಬ್ಬಿಸ್
B) N.C.
C) ವಜ್ರಾಭಯವಾಲಾ
D) ಹೆಚ್. ಆರ್. ಭಾರದ್ವಾಜ್

37)

Who among the following in the state legislature decides whether a bill is a money bill or not ?

- A) Speaker of Legislative Assembly
B) Chief Minister
C) Chairman of Legislative Council
D) Leader of the Majority Party

ರಾಜ್ಯ ಶಾಸಕಾಂಗದಲ್ಲಿ ಒಂದು ಮಸೂದೆಯು ಧನಮಸೂದೆ ಹೌದೋ ಅಥವಾ ಅದು

ನಿರ್ಧರಿಸುವುದು ಯಾರು ?

- A) ವಿಧಾನ ಸಭೆಯ ಸಭಾಪದ್ಯಕ್ಷರು
B) ಮುಖ್ಯ ಮಂತ್ರಿಗಳು
C) ವಿಧಾನ ಪರಿಷತ್ತಿನ ಅಧ್ಯಕ್ಷರು
D) ಮುಖ್ಯಮಂತ್ರಿ ವರ್ಗದ ವರ್ಗದ ನಾಯಕ

38)

What is the maximum gap between the two sessions of state legislature ?

- A) 1 Month
B) 3 Months
C) 6 Months
D) 8 Months

ರಾಜ್ಯ ಶಾಸಕಾಂಗದ ಎರಡು ಅಧಿವೇಶನಗಳ ನಡುವಿನ ಗರಿಷ್ಠ ಅಂತರ ಎಷ್ಟು ?

- A) 1 ತಿಂಗಳು
B) 3 ತಿಂಗಳು
C) 6 ತಿಂಗಳು
D) 8 ತಿಂಗಳು

39)

What is the minimum age prescribed to become a member of legislative assembly ?

- A) 20-years
B) 18 years
C) 25 years
D) 30 years

ವಿಧಾನ ಸಭ ಸದಸ್ಯರಾಗಲು ನಿಗದಿಪಡಿಸಿದ ಕನಿಷ್ಠ ವಯೋಮಿತಿ ಎಷ್ಟು ?

- A) 20 ವರ್ಷ
B) 18 ವರ್ಷ
C) 25 ವರ್ಷ
D) 30 ವರ್ಷ

40)

Identify the incorrect statement :

- A) Members of the legislative assembly are directly elected by the people.
B) Legislative assembly is a lower house of the state legislature.
C) State council of ministers is collectively responsible to the legislative assembly
D) Legislative assembly is not subject to dissolution

ತಪ್ಪಾದ ಹೇಳಿಕೆಯನ್ನು ಗುರುತಿಸಿ.

- A) ವಿಧಾನಸಭೆಯ ಸದಸ್ಯರು ಪ್ರತ್ಯಕ್ಷ ಚುನಾವಣೆಯ ಮೂಲಕ ಚುನಾಯಿತರಾಗುತ್ತಾರೆ.
B) ವಿಧಾನಸಭೆಯು ರಾಜ್ಯ ಶಾಸಕಾಂಗದ ಕೆಳಮನೆಯಾಗಿದೆ.
C) ರಾಜ್ಯ ಮಂತ್ರಿಮಂಡಲವು ಸಾಮೂಹಿಕವಾಗಿ ವಿಧಾನಸಭೆಗೆ ಜವಾಬ್ದಾರಿಯುಳ್ಳದ್ದು.
D) ವಿಧಾನಸಭೆಯು ವಿರೋಧಿತ್ವಕ್ಕೆ ಒಳಗಾಗುವುದಿಲ್ಲ.

Reg. No.

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Second Semester B.Sc. (NEP) Degree Examination, May/June 2025 (Repeater)

ENGLISH

Paper : Generic English - II

Time : 2 Hrs

Max. Marks : 60

I. Answer the following questions in a word, a phrase or a sentence each: (10x1=10)

1. Expand ZBNF.
2. Milkha Singh is also called as _____
3. Name the coaches of Milkha Singh.
4. Name any one principle of ZBNF.
5. Who is the writer of "on saying please"?
6. The poem "A prayer for my daughter" is addressed to _____
7. Where does the poet's daughter sleep?
8. Who is Maya Angelou?
9. "Still IRise" - who is the 'I' here?
10. What does the poet compare life's struggles to?

II. "A.G. Gardenes considers politeness over legal punishment" - Explain with reference to the essay "on saying please". (1x10=10)

OR

Describe the early life and struggles of Milkha Singh. How did his childhood experiences shape his career?

III. Critically appreciate the poem "Still IRise". (1x10=10)

OR

Explain the inspirational elements of the poem "How did you die"?

IV. A) Rewrite as directed. (5x2=10)

1. Write the synonyms of the following words. (02)
 - i) beautiful
 - ii) good
2. Define homophones / homonyms and give examples. (02)
3. Use the following words in your sentence. (02)
 - i) Check
 - ii) Cheque
4. Fill in the blanks with appropriate prefix or suffix for the given words in the brackets. (02)
 - i) The birthday _____ was good (celebrate)
 - ii) He is an _____ (Engine)
5. Match the words in column 'A' with their collocative words in column 'B' (02)

A		B
i) Cricket	-	runner / player / catcher
ii) Air	-	Stop / Station / Port

OR

- B) 1. Read the following passage and identify the conceptual terms related to the topic and list them (minimum Five) (05)

A computer is an electronic device that processes data and performs various tasks based on user instructions. It consists of software and hardware components that help in computing, storing information and communication. Computers are used in all walks of life. They operate using a central processing unit (CPU) memory & storage devices. The internet has further enhanced their performance, making tasks easier and faster. From simple calculations to complex programming, computers have revolutionized modern life.

2. A) "Listening is the basic skill to acquire all language skills" - Explain. (05)

OR

- B) What are the barriers of listening? Discuss the techniques to improve listening skills.

V. Answer any TWO of the following questions. (2x5=10)

- 1) Change into indirect speech.
 - a) Tarun said, 'I am singing'
 - b) Diya said, "Punit is a good dancer".
 - c) Ramya says, "do you like mango"?
 - d) Teacher said, "Keep quiet".
 - e) Students said, "What a great story"?
- 2) Write a imaginary dialogue between a student and a teacher regarding the preparation for exams.
- 3) What is communication? Explain the various types of communication.
- 4) Summarise the following passage and give suitable title.

Students life is a formative period marked by a blend of academic pursuits, social interactions, and personal growth, a time to learn actively explore interest and develop critical thinking' skills while navigating the challenges of balancing studies with extracurricular activities, fastening a sense of responsibility and building a foundation for future endeavours.

VI. Answer any TWO of the following questions. (2x5=10)

1. Write a speech on "Sports & health."
2. Write an essay on "Free facilities to the people and development of state".
3. Write a short paragraph on "the system of Exams"
4. Translate the following paragraph into Kannada or Hindi or Marathi or Urdu language
It is necessary to lead a healthy life to avoid any kind of disease to maintain a healthy life, a person can go running or take a morning walk. We have to exercise daily, and keep healthy food habits. Avoids junk foods. It is also very important to be away from smoking and drinking. This will help us to be happy and healthy.

Reg. No.

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**Second Semester B.Sc. (NEP) Degree Examination, May/June 2025
(Repeater)**

ENGLISH

Paper : Generic English - II

Time : 2 Hrs

Max. Marks : 60

I. Answer the following questions in a word, a phrase or a sentence each: (10x1=10)

1. Expand ZBNF.
2. Milkha Singh is also called as _____
3. Name the coaches of Milkha Singh.
4. Name any one principle of ZBNF.
5. Who is the writer of "on saying please"?
6. The poem "A prayer for my daughter" is addressed to _____
7. Where does the poet's daughter sleep?
8. Who is Maya Angelou?
9. "Still IRise" - who is the 'I' here?
10. What does the poet compare life's struggles to?

II. "A.G. Gardenes considers politeness over legal punishment" - Explain with reference to the essay "on saying please". (1x10=10)

OR

Describe the early life and struggles of Milkha Singh. How did his childhood experiences shape his career?

III. Critically appreciate the poem "Still IRise". (1x10=10)

OR

Explain the inspirational elements of the poem "How did you die"?

IV. A) Rewrite as directed. (5x2=10)

1. Write the synonyms of the following words. (02)
 - i) beautiful
 - ii) good
2. Define homophones / homonyms and give examples. (02)
3. Use the following words in your sentence. (02)
 - i) Check
 - ii) Cheque
4. Fill in the blanks with appropriate prefix or suffix for the given words in the brackets. (02)
 - i) The birthday _____ was good (celebrate)
 - ii) He is an _____ (Engine)
5. Match the words in column 'A' with their collocative words in column 'B' (02)

A		B
i) Cricket	-	runner / player / catcher
ii) Air	-	Stop / Station / Port

OR

- B) 1. Read the following passage and identify the conceptual terms related to the topic and list them (minimum Five) (05)

A computer is an electronic device that processes data and performs various tasks based on user instructions. It consists of software and hardware components that help in computing, storing information and communication. Computers are used in all walks of life. They operate using a central processing unit (CPU) memory & storage devices. The internet has further enhanced their performance, making tasks easier and faster. From simple calculations to complex programming, computers have revolutionized modern life.

2. A) "Listening is the basic skill to acquire all language skills" - Explain. (05)

OR

- B) What are the barriers of listening? Discuss the techniques to improve listening skills.

V. Answer any TWO of the following questions. (2x5=10)

- 1) Change into indirect speech.
 - a) Tarun said, 'I am singing'
 - b) Diya said, "Punit is a good dancer".
 - c) Ramya says, "do you like mango"?
 - d) Teacher said, "Keep quiet".
 - e) Students said, "What a great story"?
- 2) Write a imaginary dialogue between a student and a teacher regarding the preparation for exams.
- 3) What is communication? Explain the various types of communication.
- 4) Summarise the following passage and give suitable title.

Students life is a formative period marked by a blend of academic pursuits, social interactions, and personal growth, a time to learn actively explore interest and develop critical thinking skills while navigating the challenges of balancing studies with extracurricular activities, fastening a sense of responsibility and building a foundation for future endeavours.

VI. Answer any TWO of the following questions. (2x5=10)

1. Write a speech on "Sports & health".
2. Write an essay on "Free facilities to the people and development of state".
3. Write a short paragraph on "the system of Exams"
4. Translate the following paragraph into Kannada or Hindi or Marathi or Urdu language
It is necessary to lead a healthy life to avoid any kind of disease to maintain a healthy life, a person can go running or take a morning walk. We have to exercise daily, and keep healthy food habits. Avoids junk foods. It is also very important to be away from smoking and drinking. This will help us to be happy and healthy.

Reg No

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BSC - II Semester (SEP Regular) Examination, June/July - 2025

ವಿಷಯ : ಅವಶ್ಯಕ ಕನ್ನಡ

ಸಾಹಿತ್ಯ ಸೊಬಗು-೨

ಅವಧಿ : 3 ಗಂಟೆ

ಒಟ್ಟು ಅಂಕಗಳು : 80

Instruction To the Candidates: ಭಾಷೆ ಮತ್ತು ಬರಹ ಶುದ್ಧಿಗೆ ಗಮನಕೊಡಲಾಗುವುದು.

ಪ್ರ- 1 ಬೇಕಾದ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.

03 x 10=30

- ಗೋಪಾಲ ಕೃಷ್ಣ ಅಡಿಗರ 'ಭೂಮಿಗೀತ'ಕಾವ್ಯವು ಭೂತಾಯಿ ವರ್ಣನೆಯಾಗಿದೆ. ವಿವರಿಸಿ.
- ಬಡವರ ಶೋಷಣೆಯನ್ನು 'ಮಣ್ಣು ಸೇರಿತು ಬೀಜ'ಕಥೆ ಹೇಗೆ ಪ್ರತಿಪಾದಿಸಿದೆ. ಚರ್ಚಿಸಿ.
- 'ಧರ್ಮದ ಬಲೆ ಬೀಸಿದಾಗ'ಕಥೆಯು ಸ್ತ್ರೀ ಅನ್ಯಾಯದ ಭವಾವಳಿಯಾಗಿದೆ. ವಿವರಿಸಿ.
- 'ಶೂದ್ರ ತಪಸ್ವಿನಾಟಕ ವಿಮರ್ಶೆ' ಲೇಖನ ಕುವೆಂಪು ಚಿಂತನೆಯನ್ನು ಹೇಗೆ ಪ್ರತಿಪಾದಿಸಿದೆ. ಚರ್ಚಿಸಿ.
- ಪ್ರೀತಿ ಒಂದು ಕಲೆಯೇ? ಎರಿಕ್ ಪ್ರಾಂ ಅವರ ವಿಚಾರಗಳನ್ನು ಪ್ರತಿಪಾದಿಸಿರಿ.

ಪ್ರ- 2 ಬೇಕಾದ ನಾಲ್ಕಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

4x5=20

- ದ.ರಾ.ಬೇಂದ್ರೆ
- ವರ್ಷಬೈರವ
- ಒಂದು ಮುಂಜಾವು
- ಯಾತಕ್ಕೆ ಮಳೆ ಹೋದವೋ?
- ಪ್ರೀತಿ ಇಲ್ಲದ ಮೇಲೆ
- ಯು.ಆರ್. ಅನಂತಮೂರ್ತಿ

ಪ್ರ- 3 ಬೇಕಾದ ಮೂರಕ್ಕೆ ಸಂದರ್ಭದೊಡನೆ ಸ್ಪಷ್ಟೀಕರಿಸಿ.

3x5=15

- "ಮೈಯಲ್ಲ ಹೆರಿಗೆ ಮನೆ ಮಸಣ"
- "ಎದ್ದು ಕೂಳು ತಿನ್ನಂಗಿದ್ದು ತಿನ್ನು,ಯಾಕುಂತಿದ್ದಿ ಹದ್ದು ಕುಂತಂಗ"
- ನಲಕ್ಕೆ ಹಸಿರು ಮೂಡೀತು ಹೇಗೆ?

d) "ಮೂಡಣದಿ ನೇಸರನ ನಗೆಮೊಗದ ಶ್ರೀಕಾಂತಿ

e) "ಕಪ್ಪಗಿನ ಕಣ್ಣವಳೆ, ಕೈ ತಟ್ಟಿ ನಕ್ಕವಳೆ"

ಪ್ರ- 4 ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿ.

15x1=15

- 1) ಗೋಪಾಲಕೃಷ್ಣ ಅಡಿಗರ ಜನ್ಮಸ್ಥಳ ಯಾವುದು?
- 2) ಗಡ್ಡದ ಬಸಣ್ಣನ ಮೂರನೇ ಹೆಂಡತಿಯ ಹೆಸರೇನು?
- 3) ಅಮರೇಶ ನುಗಡೋಣಿಯ ಜನ್ಮಸ್ಥಳ ಯಾವುದು?
- 4) 'ಇಳೆ ಎಂದರೆ ಬರಿ ಮಣ್ಣಲ್ಲ' ಎಂದು ಹೇಳಿದ ಕವಿ ಯಾರು?
- 5) ಕುವೆಂಪು ಅವರ ಹುಟ್ಟೂರು ಯಾವುದು?
- 6) ಚನ್ನವೀರ ಕಣವಿ ಅವರು ಎಂ.ಎ. ಪದವಿ ಪಡೆದ ವಿಶ್ವವಿದ್ಯಾಲಯ ಯಾವುದು?
- 7) 'ಕಾವ್ಯಾಕ್ಷಿ' ಸಂಕಲನದ ಕವಿ ಯಾರು?
- 8) ಯು.ಆರ್. ಅನಂತಮೂರ್ತಿಯವರು ಯಾವ ವಿಶ್ವವಿದ್ಯಾಲಯದಿಂದ ಪಿಎಚ್.ಡಿ ಪದವಿ ಪಡೆದಿದ್ದರು?
- 9) ಜಿ.ಎಸ್. ಶಿವರುದ್ರಪ್ಪನವರ ಯಾವ ಕೃತಿಗೆ ಕೇಂದ್ರ ಸಾಹಿತ್ಯ ಅಕಾಡೆಮಿ ಪ್ರಶಸ್ತಿ ದೊರೆತಿದೆ?
- 10) 'ಸಂಸಾರ' ಕಾದಂಬರಿಯ ಲೇಖಕರು ಯಾರು?
- 11) "ದೀಪದ ಹೆಜ್ಜೆ" ಕೃತಿಯ ಕರ್ತೃ ಯಾರು?
- 12) "ಅಕ್ಷರ ಹೊಸಕಾವ್ಯ" ಸಂಕಲನವನ್ನು ಸಂಪಾದಿಸಿದವರು ಯಾರು?
- 13) ಎರಿಕ್ ಫ್ರಾಂ ಎಲ್ಲಿ ಜನಿಸಿದರು?
- 14) ಜಿ.ಎಸ್. ಅಮೂರ ಅವರ ಪೂರ್ಣಹೆಸರೇನು?
- 15) "ಅರ್ಧರಾತ್ರಿಯಲ್ಲಿ ಹುಟ್ಟಿದ ಕೂಸು" ಕೃತಿಯ ಲೇಖಕಿಯಾರು?

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B.Sc. II Semester (SEP Regular) Examination, June/July - 2025

Subject: Physics Electricity and Magnetism

Duration Of Paper: 3 Hrs.

Maximum Marks :80

Instruction to Candidates: 1. Calculator is allowed to solve the problems
2. Write intermediate steps

Q.No.1) Answer Any TEN of the Following

(10x2=20)

- a) What are scalars & vectors?
- b) State Gauss divergence theorem.
- c) If $\vec{A} = 3\hat{i} - \hat{j} + 2\hat{k}$ and $\vec{B} = \hat{i} - 2\hat{j} + 2\hat{k}$. Find the scalar product of two vectors.
- d) Write down the expression for time constant of RC circuit.
- e) State Kirchhoff's current law.
- f) A coil of self-inductance 50H and resistance 100Ω are joined in series to a 2V battery. Calculate the time constant and maximum current.
- g) State Biot Savart's law.
- h) State the principle of Helmholtz galvanometer.
- i) Define Lenz's law.
- j) Define charge sensitivity.
- k) What are dielectrics?
- l) Write the relation between dielectric constant and electric susceptibility.

Q.No.2) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

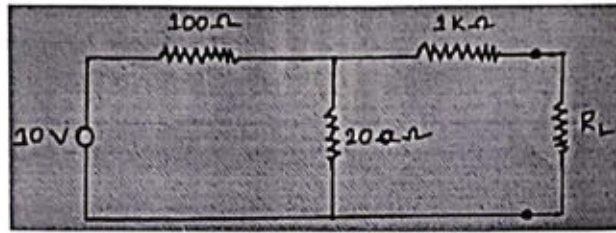
- a) Define divergence of vector field and explain physical interpretation of divergence of a vector field. 10
- b) Check, whether the vector $12\hat{i} + 4\hat{j} - 6\hat{k}$ is parallel or perpendicular to vector $6\hat{i} + 2\hat{j} - 3\hat{k}$. 5

Or

- c) State and prove Poynting theorem. 10
- d) Derive the general plane-wave equation in free space. 5

Q.No.3) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'

- a) State and prove Thevenin's theorem. 10
 b) What is the Norton's equivalent of the network shown in fig. 5



Or

- c) Derive the expressions for charging and discharging of a capacitor through RC circuit. 10
 d) An emf of 10V is applied to a circuit having a resistance of 10Ω and an inductance of 0.5H. Find the time required by the current to attain 63.2% of its final value. What is the time constant? 5

Q.No.4) Answer Any ONE full questions 'a' & 'b' or 'c' & 'd'

- a) Derive the expressions for impedance & current in series LCR circuit using j operator. 10
 b) Write a note on LCR series and parallel resonance. 5
 Or
 c) Explain De-Sauty's bridge with necessary theory. 10
 d) A series resonant has $R=60\Omega$, $L=1\text{H}$ and $C=20\mu\text{F}$. Calculate the resonant frequency. 5

Q.No.5) Answer Any ONE full questions 'a' & 'b' or 'c' & 'd'

- a) With principle & theory give the construction & working of a ballistic galvanometer. 10
 b) Write any five applications of CRO 5
 Or
 c) Explain the boundary conditions for \vec{E} , \vec{D} and \vec{P} 10
 d) $0.2\mu\text{F}$ capacitor is charged to 4 Volt, it gives a deflection of 10cm when discharged through a ballistic galvanometer. If the time period of the galvanometer is 10 sec, calculate the current sensitivity. 5

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B.Sc. II Semester (NEP Repeater) degree Examination, June/July - 2025**Subject: Physics****Electricity and Magnetism****Duration of Paper: 2 Hrs.****Maximum Marks :60**

Instruction to the Candidates: 1) Calculators are allowed
2) Write Intermediate steps.

Q.No.1) Answer Any SIX of the Following**(6x2=12)**

- What is vector quantity?
- State Stoke's theorem.
- State Thevenin theorem.
- Calculate the time constant of RL circuit with $R=10\Omega$ and $L=50H$.
- State Ampere Circuit law.
- Define quality factor?
- Write any two applications of CRO.
- What are polar molecules?

Q.No.2) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

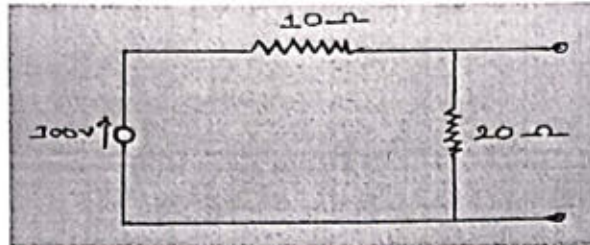
- Explain physical interpretation of divergence of vector field. **(8 M)**
- Find the unit vector normal to the surface $x^2+y^2=z^2$ at point (1,2,5). **(4M)**

OR

- State and prove Poynting theorem. **(8M)**
- Give the physical significance of curl. **(4M)**

Q.No.3) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

- a) State and prove Norton's theorem. (8M)
- b) Find the open circuited voltage and Thevenin resistance of the two terminal network shown in figure. (4M)



OR

- c) Give the theory of growth and decay of current in RL circuit (8M)
- d) A condenser of capacitor $1 \times 10^{-6} \text{ F}$ is discharged through $1 \times 10^6 \Omega$ resistance. Find the time in which the charge on it falls to 36.8% of its initial value. (4M)

Q.No.4) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

- a) Give the construction, working and theory of Helmholtz galvanometer. (8M)
- b) Distinguish between dia and paramagnetic materials. (4M)

OR

- c) Explain De-sauty's bridge with necessary theory. (8M)
- d) Write down comparison between series resonance and parallel resonance. (4M)

Q.No.5) Answer Any ONE full question 'a' & 'b' or 'c' & 'd'.

- a) Give the theory of ballistic galvanometer and derive an expression for the charge sensitivity. (8M)
- b) Write any four uses of CRO. (4M)

OR

- c) Explain the boundary conditions for \vec{E} , \vec{D} and \vec{P} . (8M)
- d) A current sensitivity of a ballistic galvanometer is $4.4 \times 10^{-9} \text{ A}$ for a deflection of 1mm on a scale kept at distance of 1M. Calculate the charge sensitivity of the galvanometer, if the periodic time of the coil is 3.14sec. (4M)

**B.Com/BBA/BCA/BSW/B.Sc/BA II Semester (SEP Regular) Examination,
June/July-2025**

Subject: Hindi Paper: AECC

१)काव्य कलश (कविता संकलन) २) पत्रलेखन. मुहावरें और कहावतें

Duration of Paper: 3 Hrs.

Maximum Marks :80

Instruction to the Candidate:

प्रश्न.१ किन्ही दस प्रश्नों के उत्तर एक वाक्य या वाक्यांश में लिखिए

2x10=20

- १ 'जनतंत्र का जन्म' इस कविता में ३३ करोड़ जनता ऐसा उल्लेख क्यों किया गया है?
- २ कवि पंत ने मनुष्य को किसका दास कहा है?
- ३ कवयित्री के अनुसार बालिका को कौन जान सकता है?
- ४ नव निर्माण की प्रेरणा किस कविता में दी गई है और इसके कवि कौन है?
- ५ खुदको पृथ्वी का प्राचीनतम नागरिक कौन मानता है?
- ६ कोशिश करने की प्रेरणा देनेवाली कविता कौनसी है तथा इसके कवि कौन है?
- ७ कवि ने आज का दिन ऐतिहासिक क्यों माना है? एक उदाहरण लिखिए?
- ८ धिन तो नहीं आती है? यह प्रश्न किससे पूछा गया है?
- ९ बौना किसे कहा गया है?
- १० बच्चों के बारे में चिंता किस कविता में व्यक्त कि गई है, तथा इसके कवि कौन हैं?
- ११ रामराज्य तथा साकेत का उल्लेख किस कविता में आया है, तथा इसके कवि कौन हैं?
- १२ किस कविता में लड़कियों को सम्बोधित किया गया है, और इसकी कवयित्री कौन हैं?

प्रश्न.२ किन्ही ३ की सप्रसंग व्याख्या कीजिए

3x5=15

- १ "जो है समर्थ, जो शक्तिमान
जीवन का है अधिकार उसे"
- २ "एक चिड़िया चोंच में
तिनका लिए जो जा रही है
वह सहज में ही पवन
उंचास को नीचा दिखाती"
- ३ "ओ अच्छी लड़कियों
अब किसीका नहीं
संभालो सिर्फ अपना मान
बे लगाम नाचने दो अपनी ख्वाहिशों को"
- ४ "लहरों से डरकर नौका पार नहीं होती

कोशिश करनेवालों की हार नहीं होती"

- ५ "अगर आज कहीं नहीं हुई कन्या भृण हत्या
तो आज का दिन ऐतिहासिक हो सकता है"

प्रश्न.३ किन्हीं दो प्रश्नों के उत्तर लिखिए

2x10=20

- १ 'बालिका का परिचय' कविता का सारांश लिखिए?
- २ 'ओ अच्छी लडकिओ' कविता द्वारा कवयित्री नारी सबलीकरण का संदेश देना चाहती है,
स्पष्ट कीजिए?
- ३ 'बौनों कि दुनिया' कविता का सारांश लिखिए?
- ४ 'कोशिश करनेवालों की हार नहीं होती' कविता द्वारा कवि क्या संदेश देना चाहते हैं?

प्रश्न.४ किन्हीं दो पर टिप्पणी लिखिए

2x5=10

- १ 'जीवन का अधिकार' कविता में कवि का संदेश
- २ पानी की प्रार्थना क्या है?
- ३ धिन तो नहीं आती है?
- ४ गौतम एक बार फिर आओ

प्रश्न.५ (A) किसी एक प्रश्न का उत्तर लिखिए

10x1=10

- १ मित्र को गृह प्रवेश के लिए निमंत्रण पत्र लिखिए?
- २ व्यापारिक छूट (Discount) कम दिए जाने पर साहित्यायन, लातूर की और से लोकभारती
प्रकाशन, इलाहाबाद को शिकायती पत्र लिखिए?

प्रश्न.५ (B) किन्हीं ५ मुहावरों/कहावतों का अर्थ लिखिए

5x1=5

- १ ईद का चांद
- २ घोड़े बेचकर सोना
- ३ टांग अडाना
- ४ नाक में दम करना
- ५ एक अनार सौ बीमार
- ६ खोदा पहाड़ निकला चूहा
- ७ जो गरजते हैं वो बरसते नहीं

B.Sc. II Semester (SEP REGULAR) Examination, June/July - 2025**Subject: Chemistry****Chemistry 2T****Duration Of Paper: 3 Hrs.****Maximum Marks :80**

Instruction To the Candidates: 1) All questions are compulsory.

2) Draw neat diagrams and give equations wherever necessary.

1) Answer Any Ten questions.**(10x2=20)**

- What is lattice energy? Mention its significance
- Write two general characteristics of covalent compounds
- Mention the hybridization of molecules having tetrahedral, Trigonal pyramidal shapes.
- What are confirmation and configuration.
- What are enantiomers? Give example
- What is racemic mixture? Mention its optical property.
- Mention the types of solids with example
- What is viscosity? Mention its unit
- What is surface tension? Mention its variation with temperature.
- Mention the spectral region and requirement of vibrational spectra.
- Give the diagram of vibrational energy levels of diatomic harmonic oscillator.
- Mention the vibrational degrees of freedom for an atomic linear and nonlinear molecule

2. Answer any three questions.**(3x 5= 15)**

- Calculate the Heat of formation of NaCl using the Born-Haber cycle from following data.

Heat of sublimation of sodium = 109.8 KJ/mol

Dissociation energy of chlorine = 227.6 KJ/ mol

Ionization energy of sodium gas = 489.5 KJ/mol

Electron affinity for chlorine = -351.4 KJ/ mol

Lattice energy of sodium chloride = -778.5 KJ/ mol

- Discuss the sp^2 hybridization and shape of BF_3 molecule
- What are bonding and antibonding molecular orbitals? Write their characteristics.
- Give the molecular orbital energy level diagram of nitrogen molecule and write its molecular orbital configuration, magnetic property.

3. Answer any three questions. (3 X 5 = 15)

- What is geometrical isomerism? Discuss the conditions to show geometrical isomerism with examples?
- Assign the E & Z notations for following with explanation of rules
 - 2-butene
 - Butanedioc acid
- Assign the R and S notations for 2-butanol with explanation.
- Write about the following with examples
 - Diastereomers
 - meso compounds

4. Answer any three questions. (3 X 5 = 15)

- Write about the following
 - Crystal Centre of symmetry and plane of symmetry
 - Bragg's law
- Bring out the definition of parachor from Macleod's equation.
- How viscosity of liquid is determined by Ostwald's viscometer?
- The refractive index and density of carbon tetrachloride are 1.458 and 1.584 gm/cc respectively. Calculate the specific refraction and molar of CCl_4 . (Mol. Weight of CCl_4 = 153)

5. Answer any three questions. (3 X 5 = 15)

- Write the following with reference to rotational spectra
 - Spectral region and range
 - Criteria for spectra
 - Molecules showing and not showing spectra
 - Rotational energy expression
 - Selection rules, lines spacing
- Derive the expression $I = \mu r^2$ for a rigid diatomic rotator.
- The rotational spectrum of gaseous HCl has a series of equidistant lines separated by 21.18 cm^{-1} calculate the following of HCl
 - Rotational constant
 - Moment of Inertia
 - Bond length

($\mu = 1.627 \times 10^{-27} \text{ kg}$, $h = 6.626 \times 10^{-34} \text{ JS}$, $C = 3 \times 10^{10} \text{ cm/s}$)
- The fundamental vibrational frequency of HCl is $8.964 \times 10^{13} \text{ S}^{-1}$. Calculate the zero-point energy and force constant of HCl molecule. ($\mu = 1.626 \times 10^{-27} \text{ kg}$)

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B.Sc. II Semester (SEP Regular) Examination, June/July - 2025
Subject: Calculus and 3- Dimensional Geometry

Duration Of Paper: 3 Hrs.

Maximum Marks :80

- Instructions to Candidates : 1. Answer any ten questions from Q.no. 1
 2. Answer any three questions from Q.no. 2,3,4 and 5

Q.no.1 Answer any TEN questions

(10x2=20)

- If $r = a(1 + \sin\theta)$, then find ϕ .
- Define polar subtangent and polar subnormal
- Write the coordinates of center of curvature
- Show that $\lim_{(x,y) \rightarrow (0,0)} \frac{xy}{x^2+y^2}$ does not exist
- Find the total derivative of u w.r.t 't' when $u = e^x \sin y$, where $x = \log t$, $y = t^2$
- Define Jacobian of u, v, w w.r.t the independent variables x, y, z .
- Write the steps to find a reduction formula for $\int \tan^n x \, dx$
- Find a reduction formula for $\int x^m (\log x)^n \, dx$
- Evaluate: $\int_0^{\pi/2} \cos^8 x \, dx$
- Find the center & radius of the sphere $x^2 + y^2 + z^2 - 2y - 4z - 11 = 0$
- Define orthogonal sphere
- Define great circle

Q.no.2. Answer any three of the following

(3x5=15)

- Define the angle between the radius vector and the tangent to the curve $r = f(\theta)$.
- Find the angle of intersection of two curves $r = \sin\theta + \cos\theta$ & $r = 2\sin\theta$
- Define the radius of curvature in parametric form
- Show that the pedal equation of the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ is $\frac{a^2 b^2}{p^2} + r^2 = a^2 + b^2$.

Q.no.3. Answer any three of the following

(3x5=15)

- If $z = \tan^{-1} \left(\frac{y}{x} \right)$, verify that $\frac{\partial^2 z}{\partial x^2} + \frac{\partial^2 z}{\partial y^2} = 0$
- State & prove generalized Euler's theorem on homogeneous function of two variables.
- If $u = f(y-z, z-x, x-y)$, then prove that $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z} = 0$

- d) If $u^3 + v^3 + w^3 = x + y + z$, $u^2 + v^2 + w^2 = x^3 + y^3 + z^3$ & $u+v+w=x^2 + y^2 + z^2$ then prove that $\frac{\partial(u,v,w)}{\partial(x,y,z)} = \frac{(x-y)(y-z)(z-x)}{(u-v)(v-w)(w-u)}$

Q.no.4. Answer any three of the following

(3x5=15)

- a) If $I_n = \int_0^{\pi/4} \cot^n x \, dx$, show that $I_n + I_{n-2} = \frac{1}{n-1}$. further, evaluate I_3
- b) Evaluate $\int_0^{\pi/2} \sin^n x \, dx$ for all the odd & even integral values of n . completely,
- c) Obtain the reduction formula for $\int \cos^m x \sin x \, dx$
- d) Evaluate : $\int_0^{\infty} \frac{x^4}{(1-x^2)^4} \, dx$

Q.no.5. Answer any three of the following

(3x5=15)

- a) Find the equation of the sphere through the points (4,-1,2), (0,-2,3) (1,5,-1) & (2,0,1)
- b) Find the equation to the sphere for which the circle of intersection of $x^2+y^2+z^2+7y-2z+2=0$ and $2x+3y+4z=8$ is a great circle.
- c) Derive the equation of the tangent plane to the sphere $x^2 + y^2 + z^2 + 2ux + 2vy + 2wz + d = 0$ at a point (x_1, y_1, z_1)
- d) Find the equation of the sphere through the circle $x^2 + y^2 + z^2 - 2x + 3y - 4z + 6 = 0$, $3x - 4y + 5z - 15 = 0$ & Cutting the sphere $x^2 + y^2 + z^2 + 2x + 4y - 6z + 11 = 0$ orthogonally

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B.Sc. II Semester (SEP REGULAR) Examination, June/July - 2025**Subject: Chemistry****Chemistry 2T****Duration Of Paper: 3 Hrs.****Maximum Marks :80**

Instruction To the Candidates: 1) All questions are compulsory.

2) Draw neat diagrams and give equations wherever necessary.

1) Answer Any Ten questions.**(10x2=20)**

- What is lattice energy? Mention its significance
- Write two general characteristics of covalent compounds
- Mention the hybridization of molecules having tetrahedral, Trigonal pyramidal shapes.
- What are confirmation and configuration.
- What are enantiomers? Give example
- What is racemic mixture? Mention its optical property.
- Mention the types of solids with example
- What is viscosity? Mention its unit
- What is surface tension? Mention its variation with temperature.
- Mention the spectral region and requirement of vibrational spectra.
- Give the diagram of vibrational energy levels of diatomic harmonic oscillator.
- Mention the vibrational degrees of freedom for an atomic linear and nonlinear molecule

2. Answer any three questions.**(3x 5= 15)**

- Calculate the Heat of formation of NaCl using the Born-Haber cycle from following data.
 Heat of sublimation of sodium = 109.8 KJ/mol
 Dissociation energy of chlorine = 227.6 KJ/ mol
 Ionization energy of sodium gas = 489.5 KJ/mol
 Electron affinity for chlorine = -351.4 KJ/ mol
 Lattice energy of sodium chloride = -778.5 KJ/ mol
- Discuss the sp^2 hybridization and shape of BF_3 molecule
- What are bonding and antibonding molecular orbitals? Write their characteristics.
- Give the molecular orbital energy level diagram of nitrogen molecule and write its molecular orbital configuration, magnetic property.

3. Answer any three questions. (3 X 5 = 15)

- What is geometrical isomerism? Discuss the conditions to show geometrical isomerism with examples?
- Assign the E & Z notations for following with explanation of rules
 - 2-butene
 - Butanedioc acid
- Assign the R and S notations for 2-butanol with explanation.
- Write about the following with examples
 - Diastereomers
 - meso compounds

4. Answer any three questions.**(3 X 5 = 15)**

- Write about the following
 - Crystal Centre of symmetry and plane of symmetry
 - Bragg's law
- Bring out the definition of parachor from Macleod's equation.
- How viscosity of liquid is determined by Ostwald's viscometer?
- The refractive index and density of carbon tetrachloride are 1.458 and 1.584 gm/cc respectively. Calculate the specific refraction and molar of CCl_4 . (Mol. Weight of CCl_4 = 153)

5. Answer any three questions.**(3 X 5 = 15)**

- Write the following with reference to rotational spectra
 - Spectral region and range
 - Criteria for spectra
 - Molecules showing and not showing spectra
 - Rotational energy expression
 - Selection rules, lines spacing
- Derive the expression $I = \mu r^2$ for a rigid diatomic rotator.
- The rotational spectrum of gaseous HCl has a series of equidistant lines separated by 21.18 cm^{-1} calculate the following of HCl
 - Rotational constant
 - Moment of Inertia
 - Bond length

($\mu = 1.627 \times 10^{-27} \text{ kg}$, $h = 6.626 \times 10^{-34} \text{ JS}$, $C = 3 \times 10^{10} \text{ cm/s}$)
- The fundamental vibrational frequency of HCl is $8.964 \times 10^{13} \text{ S}^{-1}$. Calculate the zero-point energy and force constant of HCl molecule. ($\mu = 1.626 \times 10^{-27} \text{ kg}$)

Reg. No.

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B.Sc. II Semester (SEP Regular) Examination, June/July-2025
Subject: Basic English

Duration Of Paper: 3 Hrs.

Maximum Marks :80

Instruction To the Candidate: Read the questions carefully, write answers legibly and clearly.

Q.1 Answer any TEN following questions:**(10X2=20)**

1. What is Orwell's main criticism of modern English writing?
2. Where did Baldeo's family live?
3. What was Milkha Singh's primary mission in the years 1956 and 1957?
4. How many research papers did Albert Einstein write on topics which an ordinary man would never dream of?
5. What does the phrase 'forest fire' symbolize in the poem 'Forest Fire'?
6. What was Miss Pushpa's father?
7. Define 'Active voice' and give an example.
8. What is 'Paragraph writing'?
9. Name at least four punctuations.
10. Mention any two types of presentation.
11. Mention any two aspects of body language.
12. What is 'TED Talk'?

Q.2.1 Answer any ONE of the following:**(1X10=10)**

- a) Sketch the character of Baldeo.
- b) Explain George Orwell's ideas on Politics and the English Language.

2.2 Write a short note on any ONE of the following:**(1X5=5)**

- a) Milkha Singh's hard work and dedication.
- b) Human behavior in "On a Talk in a Bus."

Q.3.1 Answer any ONE of the following questions:**(1X10=10)**

- a) Critically appreciate the poem 'Einstein's Academic Aspirations'.
- b) Explain the influence of Indian language on English as seen in the poem 'Good-bye Party for Miss Pushpa T.S.'

3.2 Write a short note on any ONE of the following:**(1X5=5)**

- a) Symbolism in 'Is the Master at Home'.
- b) Themes of Destruction and Chaos in 'Forest Fire'.

Q.4.1 Rewrite as Directed:**(5X1=5)**

1. Open the door. (change it into passive voice)
2. It is a wonderful monument. (Change into Exclamatory)
3. Ravi is too busy to talk now. (Remove too--- to)
4. The coffee is too hot to drink. (Use enough)
5. Unless you study hard, you will not pass the exam. (Use if)

4.2 Rewrite as directed:**(5x1=5)**

1. A million people waited in the sun. (Frame WH question as to get underlined word as answer.)
2. The plough was invented later. (Frame WH question as to get underlined word as answer.)
3. Somesh comes to college by bus. (Frame WH question as to get underlined word as answer.)

4. he said where are you going (Use the correct punctuations)
5. She said to me did you attend the class. (Use the correct punctuation)
- 4.3 **Rearrange the following sentences to form a meaningful paragraph:** (5x1=5)
 1. In spite of the delay, she was not upset, as it was quite common.
 2. Juliane boarded the plane at Lima in order to go to Pucallpa.
 3. Finally, it took off at 11.15.a.m. four hours late.
 4. After the take-off, she saw the tops of the Andes mountains.
 5. But the plane did not take off at the scheduled time.
- Q.5 **Answer any THREE of the following:** (3x5=15)
 1. Explain the types of presentation.
 2. Why is body language important in effective communication?
 3. How does Surabhi Gautam express her ideas on 'How She Became an IAS Officer'.
 4. Explain Sudha Murty's ideas on 'How to Lead a Balanced Life'.
 5. Capt. Raghu Raman's views on 'Diversity is the New Nationality'.

Q. P. Code: 2S2XXXC02T

Q. P. Code: 2S2XXXC02T

- 13) A High Court Judge writes his letter of resignation to which of the following?
A) President
B) The Chief Justice of India
C) Chief Justice of High Court
D) Governor
- 14) The state council of ministers are collectively responsible to which among the following?
A) President
B) Governor
C) Legislative Assembly
D) Rajya Sabha
- 15) Who among the following does remove the governor of a state?
A) Chief Minister
B) Prime Minister
C) President
D) None of the above
- 16) Which among the following is not appointed by governor?
A) Advocate General
B) State Election Commissioner
C) Chief Justice of High Court
D) Advocate
- 17) Who is responsible for conducting panchayat elections as per the 73rd amendment act?
A) Election Commission of India
B) State Government
C) Union Government
D) State Election Commission
- 18) What is the minimum age to contest elections to panchayats?
A) 18 years
B) 21 years
C) 23 years
D) 25 years
- 19) The 73rd constitutional amendment act added which schedule to the constitution?
A) Tenth schedule
B) Eleventh schedule
C) Twelfth schedule
D) Fourteenth schedule
- 20) What is the main purpose of panchayat raj system?
A) To increase agricultural production.
B) To create employment opportunities.
C) To create political awareness.
D) To make people participate in developmental administration.
- 21) Which state was the first to implement the panchayat raj system?
A) Andhra Pradesh
B) West Bengal
C) Rajasthan
D) Tamil Nadu
- 22) Which article of the Indian Constitution deals with the reservation of seats in panchayats?
A) 243 F
B) 243 D
C) 243 C
D) 243 E
- 23) Which of the following is not a part of the three-tier panchayat raj system?
A) Gram panchayat
B) Panchayat Samiti
C) Zila panchayat
D) Panchayat Samiti
- 24) Who is called the 'father of local self-government' in India?
A) Lord Munro
B) Lord Curzon
C) Lord Mayo
D) Lord Rippon
- 25) 'Local government' is subject mentioned in -
A) Union list
B) State list

Q. P. Code: 2S2XXXXC02T

Q. P. Code: 2S2XXXXC02T

- 26) Concurrent list ----- ಯಲ್ಲಿ ಸೇರುವ ವಿಷಯವಾಗಿದೆ.
ಸೇರಿದ್ದು ಪಟ್ಟಿ
A) ರಾಜ್ಯ ಪಟ್ಟಿ
B) ರಾಜ್ಯ ಪಟ್ಟಿ
C) ಸಂಸತ್ತಿನ ಪಟ್ಟಿ
D) ಸಂಸತ್ತಿನ ಯಾವುದೂ ಅಲ್ಲ
- 27) Panchayats are given constitutional status by -----
A) 72nd Amendment
B) 73rd Amendment
C) 74th Amendment
D) 75th Amendment
- 28) Panchayats are given constitutional status by -----
A) 72nd Amendment
B) 73rd Amendment
C) 74th Amendment
D) 75th Amendment
- 29) The chief minister is appointed by -----
A) Governor
B) Prime Minister
C) President
D) Chief Justice of High Court
- 30) The oath of office is administered to the governor by the -----
A) President
B) Chief Justice of India
C) Speaker of Legislative Assembly
D) Chief Justice of High Court
- 31) The chief minister of a state is member of -----
A) NITI Aayog
B) Finance Commission
C) National Development Council
D) Election Commission

5

- 32) The tenure of the legislative assembly is :
A) 4 Years
B) 5 Years
C) 6 Years
D) 3 Years
- 33) Which amendment inserted the fundamental duties in to the constitution of India ?
A) 42nd Amendment
B) 44th Amendment
C) 46th Amendment
D) 50th Amendment
- 34) The right to property was removed from Part III of Indian constitution by -----
A) 44th Amendment
B) 42nd Amendment
C) 46th Amendment
D) 50th Amendment
- 35) 86th constitution amendment act is related to -----
A) Right to property
B) Right to education
C) Right to Freedom
D) Right to equality
- 36) Who is the present governor of Karnataka ?
A) Thawarchand Gehlot
B) N. Rav
C) Vajubhaiwala
D) H. R. Bhargava

6



Q. P. Code: 2S2XXXXC02T

- A) ಧಾರ್ಮಿಕ ಚಂದ ಗೆ ಹಬ್ಬಿಸ್
B) N.C.
C) ವಜ್ರಾಭಯವಾಲಾ
D) ಹೆಚ್. ಆರ್. ಭಾರದ್ವಾಜ್

37)

Who among the following in the state legislature decides whether a bill is a money bill or not ?

- A) Speaker of Legislative Assembly
B) Chief Minister
C) Chairman of Legislative Council
D) Leader of the Majority Party

ರಾಜ್ಯ ಶಾಸಕಾಂಗದಲ್ಲಿ ಒಂದು ಮಸೂದೆಯು ಧನಮಸೂದೆ ಹೌದೋ ಅಥವಾ ಅದು

ನಿರ್ಧರಿಸುವುದು ಯಾರು ?

- A) ವಿಧಾನ ಸಭೆಯ ಸಭಾಪದ್ಯಕ್ಷರು
B) ಮುಖ್ಯ ಮಂತ್ರಿಗಳು
C) ವಿಧಾನ ಪರಿಷತ್ತಿನ ಅಧ್ಯಕ್ಷರು
D) ಮುಖ್ಯಮಂತ್ರಿ ವರ್ಗದ ವರ್ಗದ ನಾಯಕ

38)

What is the maximum gap between the two sessions of state legislature ?

- A) 1 Month
B) 3 Months
C) 6 Months
D) 8 Months

ರಾಜ್ಯ ಶಾಸಕಾಂಗದ ಎರಡು ಅಧಿವೇಶನಗಳ ನಡುವಿನ ಗರಿಷ್ಠ ಅಂತರ ಎಷ್ಟು ?

- A) 1 ತಿಂಗಳು
B) 3 ತಿಂಗಳು
C) 6 ತಿಂಗಳು
D) 8 ತಿಂಗಳು

39)

What is the minimum age prescribed to become a member of legislative assembly ?

- A) 20-years
B) 18 years
C) 25 years
D) 30 years

ವಿಧಾನ ಸಭ ಸದಸ್ಯರಾಗಲು ನಿಗದಿಪಡಿಸಿದ ಕನಿಷ್ಠ ವಯೋಮಿತಿ ಎಷ್ಟು ?

- A) 20 ವರ್ಷ
B) 18 ವರ್ಷ
C) 25 ವರ್ಷ
D) 30 ವರ್ಷ

40)

Identify the incorrect statement :

- A) Members of the legislative assembly are directly elected by the people.
B) Legislative assembly is a lower house of the state legislature.
C) State council of ministers is collectively responsible to the legislative assembly
D) Legislative assembly is not subject to dissolution

ತಪ್ಪಾದ ಹೇಳಿಕೆಯನ್ನು ಗುರುತಿಸಿ.

- A) ವಿಧಾನಸಭೆಯ ಸದಸ್ಯರು ಪ್ರತ್ಯಕ್ಷ ಚುನಾವಣೆಯ ಮೂಲಕ ಚುನಾಯಿತರಾಗುತ್ತಾರೆ.
B) ವಿಧಾನಸಭೆಯು ರಾಜ್ಯ ಶಾಸಕಾಂಗದ ಕೆಳಮನೆಯಾಗಿದೆ.
C) ರಾಜ್ಯ ಮಂತ್ರಿಮಂಡಲವು ಸಾಮೂಹಿಕವಾಗಿ ವಿಧಾನಸಭೆಗೆ ಜವಾಬ್ದಾರಿಯುತವಾಗಿದೆ.
D) ವಿಧಾನಸಭೆಯು ವಿರೋಧಿತ್ವದ ಅಳವಡಿಕೆಯನ್ನು ಒಳಗೊಂಡಿರುತ್ತದೆ.