22031

No. of Printed Pages : 2

46101

B.Sc./G.M.T./B.C.A. I Semester Degree Examination, March/April - 2023

BASIC KANNADA

Paper No. 01 : ವಿಜ್ಞಾನ ವಿಜಯ – 01

(NEP)

Time : 2 Hours | Maximum Marks : 60

ಸೂಚನೆ : ಭಾಷೆ ಮತ್ತು ಬರಹದ ಶುದ್ಧಿಗೆ ಗಮನ ಕೊಡಲಾಗುವುದು.

ವಿಭಾಗ – ಎ

ಕೆಳಗಿನ **ಎಲ್ಲಾ** ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ. **10x1=10**

1. (a) ಕನ್ನಡದ ಆದಿಕವಿ – ಎಂದು ಯಾರನ್ನು ಕರೆಯುತ್ತಾರೆ ?

   (b) "ಕನ್ನಡದ ಕಣ್ವ" – ಎಂದು ಪ್ರಸಿದ್ಧರಾದ ಕವಿ ಯಾರು ?

   (c) ಭೂಮಿಗೀತ – ಪದ್ಯವನ್ನು ಬರೆದ ಕವಿ ಯಾರು ?

   (d) "ಭೂಮಿ ಮಾನವನ ಪಿತ್ರಾರ್ಜಿತ ಆಸ್ತಿಯಲ್ಲ" – ಈ ಹೇಳಿಕೆಯನ್ನು ನೀಡಿದವರು ಯಾರು ?

   (e) ಡಾ. ಸಿದ್ಧಲಿಂಗಯ್ಯನವರ ಆತ್ಮಕಥೆ ಯಾವುದು ?

   (f) ಶ್ರೀ. ವಿ. ವೀರಪ್ಪನವರ ಕಾವ್ಯನಾಮ ಯಾವುದು ?

   (g) ನಾನೊಬ್ಬ ಕನ್ನಡ ಬಂಟರ ಬಂಟ ಎಂದು ತಮ್ಮನ್ನು ತಾವೇ ಕನ್ನಡದ ನುಡಿ ಸೇವಕ ಎಂದು ಕರೆದುಕೊಂಡ ಹೋರಾಟಗಾರ ಯಾರು ?

   (h) ತೀ.ನಂ.ಶ್ರೀ. ಯವರ ಪೂರ್ಣ ಹೆಸರೇನು ?

   (i) ಮಹಾತ್ಮ ಗಾಂಧೀಜಿಯವರ ಆತ್ಮಕಥೆಯ ಹೆಸರೇನು ?

   (j) "ಸಮಾಜವಾದ ಶುದ್ಧ ಸಮಾಜದೆಡೆಗೆ" – ಎಂಬ ಲೇಖನದ ಮೂಲ ಭಾಷೆಯಿಂದ ಕನ್ನಡಕ್ಕೆ ಅನುವಾದ ಮಾಡಿದ ಲೇಖಕರು ಯಾರು ?

ವಿಭಾಗ – ಬಿ

ಕೆಳಗಿನ **ಯಾವುದಾದರೂ ನಾಲ್ಕು** ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ. **4x5=20**

2. ನಿತ್ಯೋತ್ಸವ – ಕವನದ ಆಶಯವನ್ನು ಬರೆಯಿರಿ.

3. 'ಸ್ತ್ರೀ' – ಕವಿತೆಯು ತಾಯ್ತನದ ಆರಾಧನೆ ವಿಶ್ವರೂಪವನ್ನು ಕುರಿತು ಹಿಡಿದಿಡಲು ಪ್ರಯತ್ನಿಸುತ್ತಿದೆ ಎಂಬುದನ್ನು – ಸ್ತ್ರೀ ಕವಿತೆಯ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ವಿವರಿಸಿರಿ.

P.T.O.

4. ಸುಟ್ಟಾವು ಬೆಳ್ಳಿಕಿರಣ – ಕವಿತೆಯಲ್ಲಿ ಹೆಣ್ಣಿನ ಬಗೆಗಿನ ಕಾಳಜಿಯ ಔದಾರ್ಯವು ವ್ಯಕ್ತವಾದ ರೀತಿಯನ್ನು ಕುರಿತು ವಿವರಿಸಿರಿ.

5. ಲಿಂಗ ತಾರತಮ್ಯವನ್ನು ತೊಡೆದುಹಾಕಿ ಏಕತಾನತೆಯಿಂದ ಸಮಾನತೆಯನ್ನು ತರುವ ಅಂಶಗಳು "ಸ್ತ್ರೀವಾದಿ ತತ್ವ"– ಲೇಖನದಲ್ಲಿ ವ್ಯಕ್ತವಾದ ರೀತಿಯನ್ನು ವಿವರಿಸಿರಿ.

6. ಸತ್ಯಾಗ್ರಹ ಮತ್ತು ಸರ್ವೋದಯದ ಬಗ್ಗೆ ಗಾಂಧೀಜಿಯವರ ಅಭಿಪ್ರಾಯವನ್ನು ವಿವರಿಸಿರಿ.

7. ನೀರು ಇಲ್ಲದ ಜಳಕ – ಈ ತತ್ವ ಪದದಲ್ಲಿ ವ್ಯಕ್ತವಾದ ನಿಜಭಕ್ತಿಯ ವಿಶ್ಲೇಷಣೆಯನ್ನು ಕುರಿತು ಬರೆಯಿರಿ.

ವಿಭಾಗ – ಸಿ

ಕೆಳಗಿನ **ಯಾವುದಾದರೂ ಮೂರು** ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ. **3x10=30**

8. ಕೃಷಿಕ ವಿಜ್ಞಾನಿಯೊಬ್ಬ ಪಾಪಿಯಾಗಿ ಕೊನೆಗೆ ಆತನನ್ನು ಪರಿವರ್ತನೆಯ ಬಿಂದುವಿನಲ್ಲಿ ನಿಲ್ಲಿಸುವ ಸಂಗತಿಯನ್ನು "ಉರಿಯ ನಡಿಗೆ" ಕಥೆಯ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ವಿವರಿಸಿರಿ.

9. ಪರಿಸರ ರಕ್ಷಣೆಯ ಕುರಿತು "ಇರುವುದೊಂದೆ ಭೂಮಿ"– ಲೇಖನದಲ್ಲಿ ವ್ಯಕ್ತವಾದ ನಾಗೇಶ ಹೆಗಡೆಯವರ ಕಾಳಜಿಯನ್ನು ಕುರಿತು ವಿವರಿಸಿರಿ.

10. ದೇವದಾಸಿಯರ ಬದುಕನ್ನು ಹೂವುಗಳ ಹೆಸರಿನಲ್ಲಿ ರೂಪಕವಾಗಿ "ಬೇಲಿಯ ಹೂಗಳು" ಕವನ ಪ್ರತಿನಿಧಿಸಲ್ಪಡುತ್ತದೆ ಎಂಬುದನ್ನು ವಿವರಿಸಿರಿ.

11. ಕಾಲಮಾನಕ್ಕನುಗುಣವಾಗಿ ವಕ್ಕರಿಸುವ ನೆಗಡಿ ಕಾಯಿಲೆ ನಿರಂತರ ಬದುಕಿನ ಮತ್ತೊಂದು ಮುಖವನ್ನು ಅನಾವರಣಗೊಳಿಸುತ್ತದೆ ಎಂಬುದನ್ನು ತೀ.ನಂ.ಶ್ರೀ. ಯವರ ನೆಗಡಿ ಲೇಖನದ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ವಿವರಿಸಿರಿ.

12. ಸಮಾಜವಾದದ ಬೆಳವಣಿಗೆಯನ್ನು ಎರಿಕ್‌ಫ್ರಾಂ ರವರ ಲೇಖನದ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ವಿವರಿಸಿರಿ.

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B.Sc/B.C.A. I Semester Degree Examination, March/April - 2023

BASIC ENGLISH

Paper No. AECC-2 : English

(NEP)

Time : 2 Hours | Maximum Marks : 60

SECTION - A

1. Answer the following questions. Each question **carries one** mark. **10x1=10**

(a) Where does the free bird dip it's wings in "Caged Bird" ?

(b) Where did the narrator gone for a month in "The child" ?

(c) According to "The Tables Turned", What are poet's feelings about books ?

(d) Name the characters of kalinganath Gudadur's "Second Saturday".

(e) What is data ?

(f) Mention any two kinds of referencing skills.

(g) Translate to kannada "where there is a will there is a way".

(h) Translate to English

"ಚೈತ್ರ ಪುಸ್ತಕ ಓದುತ್ತಿದ್ದಾಳೆ."

Use correct verb form.

(i) He _____ (are/is) reading a story.

(j) Our team _____ (play/plays) a game today.

SECTION - B

Answer **any four** of the following questions. Each question **carries five** marks. **4x5=20**

2. Why does wordsworth consider nature as a good teacher ?

3. Write the character sketch of "Mr.Tagde".

P.T.O.

4. Read the following passage and answer the questions.

Dogs are very clever and intelligent animals. Their ability to smell things is many times greater than that of humans.

They can easily identify the sniffed thing by smelling it again. Dogs are also used to detect explosives due to their high smelling ability.

Their hearing power is five times more than that of humans. Dogs are deaf, blind & toothless when they are born. They like to live in groups, but some prefer to live alone.

The breed of dog Alaskan Malumate has the ability to withstand temperature up to −70 degrees. Dogs have many body colours. Mostly we see white, brown and black dogs.

(i) What is the hearing power of dogs ?

(ii) Why dogs are used to detect explosives ?

(iii) What are the common colours in dogs ?

(iv) Which dog breed can withstand lowest temperatures ?

(v) Dogs are born without _____.

- Legs
- Ears
- Eyes
- Tooth

5. Translate the following paragraph to English.

ಕೆ.ಪಿ. ಪೂರ್ಣಚಂದ್ರ ತೇಜಸ್ವಿ ರಾಷ್ಟ್ರಕವಿ ಕುವೆಂಪುರವರ ಪುತ್ರ. ಅವರು 8 ಸಪ್ಟಂಬರ್ 1938 ರಂದು ಕುಪ್ಪಳ್ಳಿಯಲ್ಲಿ ಜನಿಸಿದರು. ತೇಜಸ್ವಿ ಪ್ರಮುಖ ಕನ್ನಡದ ಬರಹಗಾರ, ಕಾದಂಬರಿಕಾರ, ಛಾಯಾಗ್ರಾಹಕ, ಪಕ್ಷಿ ವಿಜ್ಞಾನಿ ಮತ್ತು ಪರಿಸರವಾದಿ. ಅವರು ಹಲವಾರು ಕವಿತೆ, ನಾಟಕ, ಕಾದಂಬರಿ, ಕತೆ, ಅನುವಾದಗಳನ್ನು ಬರೆದಿದ್ದಾರೆ.

6. Fill in the blanks with appropriate verb forms.

It _____ (rain) all morning yesterday so Joe and I _____ (stay) at home First we _____ (play) a computer game, but we didn't like it so we _____ (watch) a movie. At 4'0 clock we _____ (go) out.

7. How does the character of Gomti plays a crucial role in Premchand's "Child" ?

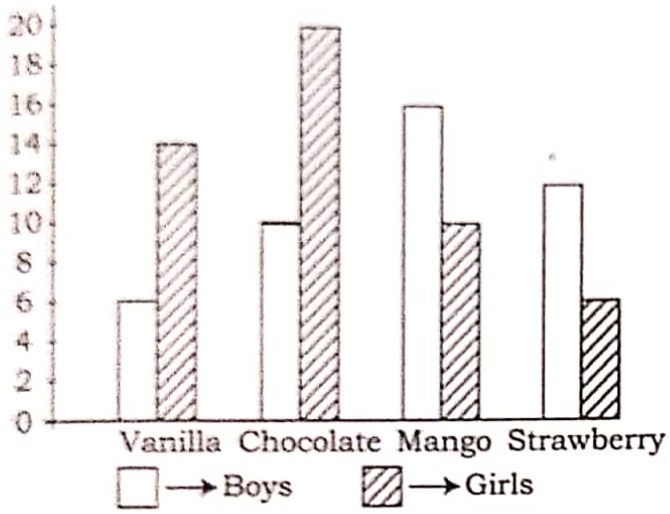
SECTION - C

Answer **any Three** of the following questions. Each question **carries ten** marks. 3x10=30

8. Compare the contrast between a caged bird & a free bird in Maya Angelou's poem.

9. Explain the central theme of "Tor comes".

10. The following double bar graph shows the data of favourite ice cream flavours of girls & boys of a class. Use the following data to interpret.



11. Translate the following paragraphs as directed.

(a) Translate : English to kannada

Octopuses live in the ocean. They have eight legs and a very big head. Small octopuses are about 1 foot long and 03 kgs. Big octopuses can be 16 feet and over 50 kgs.

(b) Translate : Kannada to English

ಭಾರತದ ಪ್ರಮುಖ ರಾಜ್ಯಗಳಲ್ಲಿ ಕರ್ನಾಟಕವೂ ಒಂದು. ಈ ಮೊದಲು ಕರ್ನಾಟಕದ ಹೆಸರು ಮೈಸೂರು ರಾಜ್ಯ ಎಂದಿತ್ತು. ಈ ರಾಜ್ಯವನ್ನು "ಕರುನಾಡು" ಅಂತಲೂ ಕರೆಯುತ್ತಾರೆ. "ಕರುನಾಡು" ಎಂದರೆ ಕಪ್ಪು ಮಣ್ಣಿನ ನಾಡು ಎಂದರ್ಥ.

12. Do as Directed

(a) Fill in the blanks with correct form of verbs.

(i) The lion _____ (was/were) sleeping.
(ii) These children _____ (have/has) played a game.
(iii) we _____ (was/had) a big house when I was a kid.
(iv) James _____ (is/are) eating candy.
(v) You _____ (are/is) a soldier.

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B.Sc./B.C.A. I Semester Degree Examination, March/April - 2023

HINDI

Paper No. 1 : The Study of Indian Language

(NEP)

Time : 2 Hours | Maximum Marks : 60

सूचना : सुंदर लेखन उपेक्षित है। देवनागरी लिपि में उत्तर दें।

Text : (i) कहानी कुंज (ii) काव्य पारासर

1. किन्हीं दस प्रश्नों के चुनकर उत्तर दीजिए। **1x10=10**

(a) मोटेराम किस कहानी का पात्र है?

(b) कलम के सिपाई किसे कहा जाता है?

(c) गणेगुड्डा की करियम्मा किस कहानी में आती है?

(d) करियप्पा के दोस्त का नाम क्या है?

(e) दुखवा मैं कासे कहूँ? कहानी के लेखक कौन हैं?

(f) सालवती के पति का नाम क्या है?

(g) तावीज कहानी के लेखक कौन है?

(h) सापेक्ष संवेदना किसकी काव्य रचना है?

(i) निराला का पूरा नाम क्या है?

(j) नियम कविता किस कवि की है?

(k) काव्य पारासर पुस्तक के संपादक कौन है?

2. किन्हीं दो के संदर्भ सहित व्याख्या कीजिए। **2x5=10**

(a) 'सलीमा जब बच्ची थी, मैं उसके बाप का नौकर था। तभी से मैं उसे प्यार करता था।'

(b) 'माँ जी कहाँ हो तुम? आओ इधर, तावीज लाया हूँ, देखो।'

(c) 'बम फटने का दु:ख तो होता है पर उतना ज्यादा नहीं, चाय के ठंडे होने का दु:ख जितना।'

(d) 'पर हवा का काम कैसे चलता है यह आज भी रहस्य है। जब कुछ नहीं मिला तो उसी को टोकरी में रख कर वह सूदखोर के पास जाता है।'

P.T.O.

3. **किन्हीं दो** प्रश्नों के उत्तर दीजिए। **2x5=10**

(a) 'सत्याग्रह' कहानी का सारांश अपने वाक्य में लिखिए।

(b) 'दुखवा मैं कासे कहूँ' कहानी की आलोचना कीजिए।

(c) 'धारा' कविता का सारांश अपने वाक्य में लिखिए।

4. **किन्हीं दो** प्रश्नों के उत्तर लिखिए। **2x10=20**

(a) 'सालवती' कहानी का आशय अपने वाक्य में लिखिए।

(b) 'कवि की मृत्यु' कविता का भाव समझाइए।

(c) 'तावीज' कहानी का उद्देश्य स्पष्ट कीजिए।

5. हिन्दी में अनुवाद कीजिए। **1x10=10**

(a) ದೇವರ ತರುವಾಯ ನಾವು ಹಡೆದ ತಾಯಿಗೆ ರುಣಿಯಾಗಿರಬೇಕು.

(b) ನಿನ್ನ ಕರ್ತವ್ಯವನ್ನು ನೀನು ಮಾಡು ಬಂದಿದೆಲ್ಲ ಬರಲಿ.

(c) ಪ್ರಪಂಚದಲ್ಲಿ ಯಾರು ಶಾಶ್ವತರಲ್ಲ.

(d) ನಾಯಕನಾದವನಿಗೆ ವಿಶಾಲವಾದ ದೃಷ್ಟಿ ಇರಬೇಕು.

(e) ನಾವು ಹಿರಿಯರನ್ನು ಗೌರವಿಸಬೇಕು.

(a) Next to God we are indebted to our Mother.

(b) Do your duty come what may.

(c) Nothing is stable in this world.

(d) A leader should have a wide outlook.

(e) We should respect our elders.

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No. of Printed Pages : **2**

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B.Sc. I Semester Degree Examination, March/April - 2023

PHYSICS

DSC 1 : Mechanics & Properties of Matter

(NEP)

Time : 2 Hours | Maximum Marks : 60

Note : *(i) Answer* ***all*** *the sections.*

(ii) Non-Programmed Scientific Calculators are Allowed.

SECTION - A

1. Answer the following Sub-Questions, each sub-question carries **one** mark. **10x1=10**

(a) Define Inertial frame of Reference.

(b) What is Fictitious force ?

(c) What is In-elastic Collision ?

(d) Give an example for law of Conservation of Energy.

(e) What is Rigid Body ?

(f) Define moment of Inertia.

(g) Define young's modulous of a material.

(h) State Hook's Law.

(i) Define Terminal Velocity.

(j) Define Surface Tension.

SECTION - B

Answer **any four** of the following questions, each carries **five** marks. **4x5=20**

2. Show that length is invariant under Galilian Transformation Equations. **5**

3. State and prove perpendicular axis Theorem. **5**

4. Derive Relation between momentum and Torque. **5**

5. Distinguish between Streamline and Turbulant flow. **5**

6. Give the necessary Theory of Flywheel. **5**

7. Explain stress-strain diagram. **5**

P.T.O.

SECTION - C

Answer **any three** of the following questions, each question carries **ten** marks. 3x10=30

8. With neat Diagram explain Michelson and Morely Experiment and its negative results. 10

9. Derive loss of Kinetic energy of collision of two particles stick together. 10

10. (a) Derive expression for moment of Inertia of circular disk about an axis passing through its centre. 7+3

(b) A flywheel of mass 548 kg and Diameter 2.2 m takes 591 Revolutions per minute. Find the moment of Inertia of a fly wheel.

11. (a) Derive Expression for young's modulus of a material by using Uniform Binding method. 7+3

(b) A bar of length 0.9 m, Breadth 0.252 m and depth 0.0617 m has Depression of 0.3 cm when load of 1400×10^{-3} kg is applied. Find the young's modulous of the given Uniform Binding material given $g = 9.8\ m/s^2$.

12. (a) Derive expression for Co-efficient of viscosity of a liquid by poiseuile's method. 8+2

(b) Surface Tension of Soap Solution of 2.5×10^{-3} N/m, find the Excess Pressure inside a soap bubble of Diameter 1×10^{-2} m.

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B.Sc. I Semester Degree Examination, March/April - 2023

CHEMISTRY

DSC-I : Fundamentals of Chemistry

(NEP)

Time : 2 Hours | Maximum Marks : 60

Note : *Answer* ***all*** *sections*

SECTION - A

Answer the following sub-questions. Each sub-questions carrie **one** mark. **10x1=10**

1. (a) What is Normality ? **1**

(b) Define molar mass. **1**

(c) State Pauli's exclusive principle. **1**

(d) What is effective nuclear charge ? **1**

(e) What is Steric effect ? **1**

(f) Write the Diel-Alder reaction. **1**

(g) What is collision number ? **1**

(h) Define Parachor. **1**

(i) What is complexometric titration ? **1**

(j) What is Co-precipitation ? **1**

SECTION - B

Answer **any four** of the following questions. Each question carries **five** mark. **4x5=20**

2. Write the safety measures in Chemical Laboratory. **5**

3. What are quantum numbers ? Explain with significance. **5**

4. What is Sp^2 hybridization ? Explain with example. **5**

P.T.O.

5. Write Van der waals equation, and discuss its applications in explaining the behaviour of real gases. 5

6. Write the theory of Redox indicators. 5

7. Explain the formation of alkenes by elimination reaction. 5

SECTION - C

Answer **any three** of the following questions, each question carries **ten** marks.

3x10=30

8. (a) Explain the calibration of Glass wares. 6

   (b) Write a note on basic principles of titrametric analysis. 4

9. (a) Describe the shapes of s, p and d orbitals with neat diagram. 6

   (b) State and illustrate Hund's rule of maximum multiplicity. 4

10. (a) Write a note on Aromaticity and Huckel rule. 6

    (b) Write the mechanism of free radical addition of HBr to propene. 4

11. (a) Define Viscocity and discuss its determination by using ostwald's viscometer. 6

    (b) Write a note on law of corresponding state. 4

12. (a) Explain EDTA titration and theory of metal ion indicators. 6

    (b) Discuss the factors influencing precipitation in gravimetry. 4

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46126

B.Sc. I Semester Degree Examination, March/April - 2023

MATHEMATICS

1 DSC : Fundamentals of Algebra and Calculus

(NEP)

Time : 2 Hours | Maximum Marks : 60

Note : *Answer* ***all*** *the sections.*

SECTION - A

Answer the following sub-questions. Each Sub-question carries **one** mark. **10x1=10**

1. (a) Define symmetric matrix.

(b) Define characteristic matrix of a square matrix.

(c) Define system of linear equations.

(d) Define characteristic vector of a square matrix.

(e) Write the formula for Arc length in parametric form.

(f) Write the co-ordinates centre of curvature.

(g) If $f(x) = \begin{cases} x \cdot \sin 1/x & \text{if } x \neq 0 \\ 0 & \text{if } x = 0 \end{cases}$ determine whether $f(x)$ is continuous at $x=0$.

(h) Evaluate $\lim_{x \to 0} \left[\frac{1-\cos x}{\sin x}\right]$.

(i) Find the n^{th} derivative of e^{mx}.

(j) If $y = e^{m \sin^{-1} x}$ find $\frac{dy}{dx}$.

SECTION - B

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

2. Find the rank of the matrix $A = \begin{bmatrix} 3 & 5 & 7 \\ 18 & 30 & 42 \end{bmatrix}$.

3. Find the eigen values of the matrices $\begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix}$.

P.T.O.

4. Derive the formula for angle between the radius vector and the tangent at a point on the curve.

5. Verify the Roll's theorem for the function $f(x)=x^2-6x+8$ in the interval [2, 4].

6. Find the n^{th} derivative of $e^{ax}\cos(bx+c)$.

7. Find the point of inflexion on the curve $x=\log(y/x)$.

SECTION - C

Answer **any three** of the following question. **3x10=30**

8. (a) Verify the Cayley Hamilton theorem for the matrices $\begin{bmatrix}1 & -2\\ 3 & 4\end{bmatrix}$. 6

   (b) If A is a symmetric (skew symmetric) matrix then KA is symmetric where K is scalar. 4

9. (a) Solve the system of equation. 6
   $x+2y-3z=0$
   $3x-y+z=0$
   $5x+3y+2z=0$

   (b) Find Eigen vector $\begin{bmatrix}2 & 2 & 1\\ 1 & 3 & 1\\ 1 & 2 & 2\end{bmatrix}$ associated with value 1. 4

10. (a) Show that the pedal equation of the ellipse $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$ is 6

    $$\frac{a^2b^2}{p^2}+r^2=a^2+b^2.0$$

    (b) Find the pedal equation of curve $r^m=a^m\cos m\theta$. 4

11. (a) Expand the function $\log_e(1+x)$ upto term containing x^3 by Maclaurin's expansion. 5

    (b) Evaluate $\lim_{x\to\pi/2}(\sin x)^{\tan x}$. 5

12. (a) If $y=\left[\log cx+\sqrt{1+x^2}\right]^2$ show that $(1+x^2)y_{n+2}+(2n+1)xy_{n+1}-n^2y_n=0$. 6

    (b) Find the n^{th} derivative of $\sin^2 x$. 4

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20411

No. of Printed Pages : **2**

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BBM/BA/B.Sc./B.Com./BCA I Semester Degree Examination, March/April - 2023

ZOOLOGY

Paper No. EZO : Economic Zoology

(NEP)

Time : 2 Hours | Maximum Marks : 60

Note : *(i) Answer **all** questions.*

ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

(ii) Draw neat labelled diagrams wherever necessary.

ಅವಶ್ಯವಿದ್ದಲ್ಲಿ ಅಂದವಾದ ಚಿತ್ರಗಳೊಂದಿಗೆ ಬರೆಯಿರಿ.

SECTION - A / ವಿಭಾಗ – ಎ

Answer the following sub-questions. Each sub-question carries **one** mark. **10x1=10**

ಈ ಕೆಳಗಿನ ಉಪ–ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ, ಪ್ರತಿಯೊಂದು ಉಪ–ಪ್ರಶ್ನೆಗೆ **ಒಂದು** ಅಂಕವನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ.

1. (a) Define Vermiculture.
ಎರೆಹುಳು ಸಾಕಾಣಿಕೆಯನ್ನು ವ್ಯಾಖ್ಯಾನಿಸಿ.

(b) Name any two indigenous species of Earthworm.
ಎರೆಹುಳದ ಯಾವುದಾದರು ಎರಡು ಸ್ಥಳೀಯ ಜಾತಿಗಳನ್ನು ಹೆಸರಿಸಿ.

(c) Write any two species of Honeybee.
ಯಾವುದಾದರು ಎರಡು ಜಾತಿಯ ಜೇನುಹುಳುಗಳ ಹೆಸರನ್ನು ಬರೆಯಿರಿ.

(d) List any two diseases of Cattle.
ಜಾನುವಾರುಗಳ ಯಾವುದಾದರು ಎರಡು ರೋಗಗಳನ್ನು ಪಟ್ಟಿ ಮಾಡಿ.

(e) What do you mean by Aquaculture ?
ಜಲಚರ ಸಾಕಾಣಿಕೆ ಎಂದರೇನು ?

(f) Write the scientific name of Silkworm.
ರೇಷ್ಮೆಹುಳದ ವೈಜ್ಞಾನಿಕ ಹೆಸರನ್ನು ಬರೆಯಿರಿ.

(g) Define shellfish culture.
ಚಿಪ್ಪುಮೀನು ಸಾಕಾಣಿಕೆ ಎಂದರೇನು ?

(h) Write any two types of Mulberry plant species.
ಎರಡು ರೀತಿಯ ಹಿಪ್ಪುನೇರಳೆ ಸಸ್ಯದ ಜಾತಿಗಳನ್ನು ಬರೆಯಿರಿ.

(i) List any two freshwater fish.
ಯಾವುದಾದರು ಎರಡು ಸಿಹಿನೀರಿನ ಮೀನುಗಳನ್ನು ಪಟ್ಟಿ ಮಾಡಿ.

(j) What are Endogeic Earthworms ?
ಎಂಡೋಜಿಕ್ ಎರೆಹುಳಗಳು ಎಂದರೇನು ?

P.T.O.

SECTION - B / ವಿಭಾಗ – ಬಿ

Answer **any four** of the following questions. Each question carries **five** marks.
ಈ ಕೆಳಗಿನ **ಯಾವುದಾದರು ನಾಲ್ಕು** ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ. ಪ್ರತಿ ಪ್ರಶ್ನೆಯು **ಐದು** ಅಂಕಗಳನ್ನು ಹೊಂದಿದೆ. **4x5=20**

2. Write a short note on the history and present status of sericulture in India.
ಭಾರತದಲ್ಲಿ ರೇಷ್ಮೆ ಕೃಷಿಯ ಇತಿಹಾಸ ಮತ್ತು ಪ್ರಸ್ತುತ ಸ್ಥಿತಿಯ ಕುರಿತು ಕಿರು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

3. Explain briefly about pests and diseases of bees.
ಜೇನುನೊಣಕ್ಕೆ ತಗಲುವ ರೋಗಗಳು ಮತ್ತು ಹಾನಿಕಾರಕ ಕೀಟಗಳ ಬಗ್ಗೆ ಸಂಕ್ಷಿಪ್ತವಾಗಿ ವಿವರಿಸಿ.

4. Give an account of nutritive value of Egg and Meat.
ಮೊಟ್ಟೆ ಮತ್ತು ಮಾಂಸದ ಪೌಷ್ಟಿಕಾಂಶಗಳ ಕುರಿತು ಕಿರು ಟಿಪ್ಪಣಿಯನ್ನು ಬರೆಯಿರಿ.

5. Write a note on Pond Culture.
ಕೆರೆ ನೀರಿನ ಕೃಷಿಯ ಬಗ್ಗೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

6. Explain the Prawn Culture.
ಸಿಗಡಿ ಮೀನಿನ ಕೃಷಿಯ ಬಗ್ಗೆ ವಿವರಿಸಿ.

7. Discuss the scope of Vermiculture.
ಎರೆಹುಳು ಸಾಕಾಣಿಕೆಯ ಮಹತ್ವವನ್ನು ವಿವರಿಸಿ.

SECTION - C / ವಿಭಾಗ – ಸಿ

Answer **any three** of the following questions. Each question carries **ten** marks.
ಈ ಕೆಳಗಿನ **ಯಾವುದಾದರು ಮೂರು** ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ, ಪ್ರತಿ ಪ್ರಶ್ನೆಯು **ಹತ್ತು** ಅಂಕಗಳನ್ನೊಳಗೊಂಡಿದೆ. **3x10=30**

8. Explain in detail about life cycle of Silkworm.
ರೇಷ್ಮೆಹುಳುವಿನ ಜೀವನ ಚಕ್ರದ ಬಗ್ಗೆ ವಿವರವಾಗಿ ಬರೆಯಿರಿ.

9. Discuss in detail the economic importance of Apiculture.
ಜೇನು ಸಾಕಾಣಿಕೆಯ ಆರ್ಥಿಕ ಪ್ರಾಮುಖ್ಯತೆಯನ್ನು ವಿವರವಾಗಿ ಚರ್ಚಿಸಿ.

10. Explain the life cycle of honeybee with a neat labelled diagram.
ಜೇನುಹುಳದ ಜೀವನ ಚಕ್ರವನ್ನು ಅಂದವಾದ ಚಿತ್ರದೊಂದಿಗೆ ವಿವರಿಸಿರಿ.

11. Write a detailed note on nutritive value of Egg and Milk.
ಮೊಟ್ಟೆ ಮತ್ತು ಹಾಲಿನ ಪೌಷ್ಟಿಕಾಂಶ ಮೌಲ್ಯದ ಕುರಿತು ವಿವರವಾದ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

12. Elucidate the management of a model dairy farm.
ಮಾದರಿ ಡೈರಿ ಫಾರ್ಮಿನ ನಿರ್ವಹಣೆಯನ್ನು ವಿವರಿಸಿ.

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46129

B.Sc. I Semester Degree Examination, March/April - 2023

ZOOLOGY

Cytology, Genetics and Infectious Diseases

(NEP)

Time : 2 Hours | Maximum Marks : 60

Note : *(i) Answer **all** sections.*

(ii) Draw labelled diagrams whenever necessary.

SECTION - A

1. Answer the following sub-questions in **one** word or **one** sentence each. **10x1=10**

(a) What do you mean by Penetrance ?

(b) What is cell theory ?

(c) Define elephantiasis.

(d) What is Apoptosis ?

(e) Name the vector of Trypanosoma.

(f) What is Autocrine signalling ?

(g) What is sex linked inheritance ?

(h) Expand ECM and ATP.

(i) What is Maternal inheritance ?

(j) What is dominant epistasis ?

SECTION - B

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

2. Explain the type and inheritance of sex determination.

3. Briefly explain the steps for intercellular signalling.

4. Explain the ultra structure of polytene chromosome with a neat labelled diagram.

5. Write a short note on 'inheritance' of colour blindness and its effects in human beings.

6. Explain the inheritance of comb pattern in fowls.

7. Briefly explain the structure and functions of Ribosomes.

P.T.O.

SECTION - C

Answer **any three** of the following questions. **3x10=30**

8. Describe the polygenic inheritance in human beings.

9. Describe Singer and Nicholson's fluid Mosaic model of Plasma Membrane. Add a note on its functions.

10. Write a detailed note on second law of Mendel by taking an appropriate example.

11. Describe the different stages of the prophase-I of meiosis with the help of labelled diagram.

12. Discuss the life cycle and Pathogenesity, Symptoms, prevention and diseases caused by Giardia lamblia. (Giardia lamblia)

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46121

100111

B.Sc. I Semester (NEP) Degree Examination, March/April - 2022

BIOTECHNOLOGY

Paper No. 1 - Cell Biology and Genetics

Time : 3 Hours | Maximum Marks : 60

Instruction : *Answer* ***all*** *Sections.*

SECTION - A

Answer the following sub-questions. Each sub-question carries **one** mark. **10x1=10**

1. (a) What do you mean by Cell Cycle ?
(b) What is Epistasis ?
(c) Define Coupling.
(d) What is Karyotype ?
(e) What is Biotechnology ?
(f) Define Kinetochore.
(g) What is Mutation ?
(h) What is Heterozygous ?
(i) Define Aneuploidy.
(j) Mention two sub-units of Ribosomes.

SECTION - B

Answer **any four** of the following questions. Each question carries **five** marks. **4x5=20**

2. Write a short note on the importance of mutation in Evolution.

3. Explain briefly about the Chloroplast with a neat labelled diagram.

4. Briefly explain the Klinefelter's Syndrome and Turner's Syndrome.

5. Describe the Ultra Structure of Salivary gland Chromosome with the help of neat labelled diagram.

6. What is incomplete dominance ? Briefly explain by taking suitable example.

7. Give an account of the Cell Cycle with the schematic representation.

P.T.O.

SECTION - C

Answer **any three** of the following questions. Each question carries **ten** marks. **3x10=30**

8. Write a detailed note on the Ultra Structure of Chromosome with a neat labelled diagram.

9. Explain the dominant Epistasis with suitable example.

10. Give the detailed account of the fluid mosaic model of Plasma membrane with a neat labelled diagram. Add a note on its functions.

11. Explain the linkage and crossingover in Maize.

12. Explain in detail about the Structural changes in Chromosomes.

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No. of Printed Pages : **2**

46122

B.Sc. I Semester Degree Examination, March/April - 2023

BOTANY

Microbial Diversity

(NEP)

Time : 2 Hours | Maximum Marks : 60

Note : *(i) Answer* ***all*** *the sections.*

(ii) Draw diagrams wherever necessary.

SECTION - A

I. Answer **all** the following questions. **10x1=10**

1. (a) Expand TEM.

(b) Who proposed five kingdom system of classification ?

(c) What is Pasteurisation ?

(d) What is natural media ?

(e) What is bacteriophage ?

(f) Define capsid.

(g) Expand MLO's.

(h) Name any one nitrogen fixing bacteria.

(i) What are aplanospores ?

(j) What is mycobionts ?

SECTION - B

II. Answer **any four** of the following questions. **4x5=20**

2. Write a note on microbial distribution in soil.

3. Write a note on microbial culture collections.

4. Describe the economic importance of viruses.

5. Describe the ultrastructure of Bacteria with neat labelled diagram.

6. Illustrate the general characters of fungi.

7. What is Lichen ? Explain the economic importance of lichens.

P.T.O.

SECTION - C

III. Answer **any three** of the following question. **3x10=30**

8. Write a note on contributions of Robert koch and Joseph Lister.

9. Describe the nutritional types of Microbes.

10. Describe the life cycle of Rhizopus with schematic representation.

11. Describe the role of bacteria in agriculture and nitrogen fixation.

12. Mention causal Organism, Symptoms and Controlling measures of citrus canker disease.

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36121

10194

B.Sc. I Semester Degree Examination, March/April - 2023

PHYSICS

Paper No. 01 : Mechanics and Properties of Matter
(CBCS)

Time : 3 Hours | Maximum Marks : 70

Note : *(i) Answer **all** the sections.*

(ii) Non - programmed scientific calculators are allowed.

SECTION - A

Answer the following questions. Each carry **one** mark. **15x1=15**

1. Define non-inertial frame of Reference.
2. In which frame the total momentum of a system is always zero ?
3. State law of conservation of linear momentum.
4. What is oblique collision ?
5. Give the relation between Momentum and Torque.
6. Define co-efficient of Restitution.
7. Mention SI unit of linear momentum.
8. Define Radius of Gyration.
9. State parallel axis theorem.
10. What is rotational analogue of mass ?
11. Define Poisson's Ratio.
12. State Hooke's law.
13. Define Young's modulus of a material.
14. Define co-efficient viscosity of a liquid.
15. Mention the SI unit of Gravitational constant.

P.T.O.

SECTION - B

Answer **any five** of the following : **5x5=25**

16. Show that length is invariant under Galilian Transformation Equation. **5**

17. State and prove the law of conservation of angular momentum in case of Skating motion of a planet around the sun. **5**

18. Derive an expression for loss of K.E. in case of an inelastic collision. **5**

19. State and prove Perpendicular Axis Theorem. **5**

20. Derive the relation between Young's, Bulk and Rigidity modulus of Elasticity. **5**

21. Write a note on Geostationary Satellite. **5**

22. Derive an expression for Terminal Velocity. **5**

SECTION - C

Answer **any three** of the following : **3x10=30**

23. Derive an expression for coriolis force and also discuss effects of coriolis force. **10**

24. (a) State and prove law of conservation of energy in case of spiral spring.
(b) Derive an expression for the velocity of single stage Rocket at any extent of Time. **5+5**

25. (a) Derive an expression for M.I. of Circular Disc about an axis passing through its centre.
(b) Assuming earth to be a sphere of uniform density 5520 kg/m^3 and Radius is 6400 km. Find M.I. about its axis of rotation. **7+3**

26. (a) Derive an expression for Young's modulus of a cantilever.
(b) A metal rod of length 0.49 m, breadth 0.023 m and thickness 2.9×10^{-3} m is clamped at one end with 3.9 kg. Find Young's modulus if it depresses through 0.06 m and $g = 9.8$ m/s^2. **7+3**

27. Derive an expression for Co-efficient of viscosity of a liquid by Poiseuile's method. **10**

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10221

B.Sc. I Semester Degree Examination, March/April - 2023

CHEMISTRY

I : Chemistry

(CBCS)

Time : 3 Hours | Maximum Marks : 70

Notes : *(i)* ***Section - A*** *is* ***compulsory.***

(ii) ***Section - B*** *Inorganic chemistry question.*

(iii) ***Section - C*** *contains organic chemistry question.*

(iv) ***Section - D*** *contains physical chemistry question.*

(v) *Answer* ***all*** *the* ***four*** *sections* ***A, B, C*** *and* ***D.***

SECTION - A

Answer **any ten** of the following : **10x1=10**

1. State Hund's Rule.

2. Write all possible values for m when l=3.

3. Define ionisation potential.

4. Define lattice energy.

5. Why Sigma bond is stronger than pi-bond ?

6. What is chiral carbon ?

7. What are free radicals ?

8. What are elimination reactions ?

9. Define mean free path.

10. What is Parachor ?

11. Define refractive Index.

12. What is Bravais lattice ?

P.T.O.

SECTION - B

Answer **any two** of the following questions : **2x10=20**

13. (a) Define electronegativity. Explain its variation in periodic table. **6**

(b) Write a note on physical significance of Ψ and Ψ^2. **4**

14. (a) Discuss the Born-Haber's cycle. **6**

(b) Write a note on the effective nuclear charge. **4**

15. (a) Explain all four quantum numbers and their significance. **6**

(b) State (n+l) rule and Pauli's exclusion principle with example. **4**

SECTION - C

Answer **any two** of the following questions : **2x10=20**

16. (a) What is hybridisation ? Discuss the SP - hybridisation by taking acetylene as an example. **6**

(b) What are carbonium ions ? Give one method of formation of carbonium ions. **4**

17. (a) Define with example of the following : **6**

(i) Addition reactions

(ii) Reduction reactions

(b) Write a note on enantiomers. **4**

18. (a) What is Geometrical Isomerism ? Explain geometrical isomerism in Maleic acid and Fumaric acid. **6**

(b) Write a note on bond length and bond strength. **4**

SECTION - D

Answer **any two** of the following questions : **2x10=20**

19. (a) Discuss the isotherms of CO_2 and hence define the critical constants. **6**

(b) Write the differences between Crystalline and Amorphous Solids. **4**

20. (a) Describe the method of determination of Viscosity of a liquid using Ostwald's viscometer. **6**

(b) What is the effect of temperature on Viscosity and Surface tension of a liquid. **4**

21. (a) Derive Bragg's Equation. **6**

(b) Write a note on elements of symmetry. **4**

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No. of Printed Pages : 3

10141 **30123**

B.Sc. I Semester Degree Examination, March/April - 2023

MATHEMATICS - I

Paper No. 1.1 : Algebra-I

(CBCS)

Time : 3 Hours | Maximum Marks : 60

Note : *Answer* ***all*** *sections.*

SECTION - A

Answer **any ten** of the following. **10x2=20**

1. Symbolise and negate "some students are lazy or all students are hard working".

2. Define Existential quantifiers with an example.

3. Find the truth set of the open sentence $P(x) : x^2-13x+36=0$ with $R[P(x)]=z$, the set of all integers.

4. Prove that the proposition :
"All odd numbers are prime" is false by giving a counter example.

5. State Remainder theorem and Factor theorem.

6. Find the quotient and the remainder obtained by dividing $3x^3-4x^2+2x+1$ by $x-3$.

7. Find the nature of roots of the equation :
$x^9-x^5+x^4+x^2+1=0$.

8. Transform the equation :
$3x^4-4x^3+4x^2-2x+1=0$ into another, whose leading co-efficient will be unity.

9. Define eigen value and eigen vector of a square matrix.

10. Find the rank of the matrix A using the elementary row operation, where

$$A=\begin{bmatrix}1 & 2 & -1 & 4\\ 2 & 4 & 3 & 5\\ 3 & 2 & 6 & 7\end{bmatrix}$$

11. Define normal form of a matrix with an example.

P.T.O.

12. Find the value of λ for which the following system has a non-trivial solution :
$2x-y+2z=0$
$3x+y-z=0$
$\lambda x-2y+z=0$

SECTION - B

Answer **any four** of the following. **4x5=20**

13. If $p(x)$ and $q(x)$ be the open sentences with same replacement set then prove that $T[P(x) \vee q(x)] = T[P(x)] \cup T[q(x)]$.

14. Prove the following statement by indirect proof :
"If a + b is odd and a is even then b is odd".

15. Solve the equation $4x^4-24x^3+31x^2+6x-8=0$ given that the sum of the two roots of the equation is zero.

16. Solve the equation :
$40x^4+22x^3-21x^2-2x+1=0$ whose roots are in harmonic progression.

17. Show that the equation :
$2x^7+3x^4+3x+k=0$ has atleast four imaginary roots for all values of k.

18. Solve the equation :
$x^3-3x^2+12x+16=0$ by Cardon's method.

SECTION - C

Answer **any four** of the following. **4x5=20**

19. Find the rank of the matrix A by elementary row operations where :

$$A=\begin{bmatrix} 1 & 2 & -1 & 4 \\ 2 & 4 & 3 & 4 \\ 1 & 2 & 3 & 4 \\ -1 & -2 & 6 & -7 \end{bmatrix}$$

20. Find the inverse of :

$$A=\begin{bmatrix} 1 & 2 & -2 \\ -1 & 3 & 0 \\ 0 & -2 & 1 \end{bmatrix}$$

21. Solve completely the system of equations :
$x+6y+3z+8w=0$
$2x+4y+6z-w=0$
$3x+10y+9z+7w=0$
$4x+16y+12z+15w=0$

22. Test the following system for consistency and solve if it is consistent :

$x-7y+15z=-14$
$2x+3y-4z=6$
$3x-4y+11z=-8$
$5x-y+7z=-2$

23. Find the eigen values and eigen vectors of the matrix.

$$\begin{bmatrix} 1 & 2 \\ 2 & -2 \end{bmatrix}$$

24. Verify Cayley-Hamilton theorem for the matrix $\begin{bmatrix} 1 & 4 \\ 2 & 3 \end{bmatrix}$ and hence compute its inverse.

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B.Sc. I Semester Degree Examination, March/April - 2023

MATHEMATICS - I

Paper No. 1.1 : Algebra-I

(CBCS)

Time : 3 Hours | Maximum Marks : 60

Note : *Answer* ***all*** *sections.*

SECTION - A

Answer **any ten** of the following. **10x2=20**

1. Symbolise and negate "some students are lazy or all students are hard working".

2. Define Existential quantifiers with an example.

3. Find the truth set of the open sentence $P(x) : x^2-13x+36=0$ with $R[P(x)]=z$, the set of all integers.

4. Prove that the proposition :
"All odd numbers are prime" is false by giving a counter example.

5. State Remainder theorem and Factor theorem.

6. Find the quotient and the remainder obtained by dividing $3x^3-4x^2+2x+1$ by $x-3$.

7. Find the nature of roots of the equation :
$x^9-x^5+x^4+x^2+1=0$.

8. Transform the equation :
$3x^4-4x^3+4x^2-2x+1=0$ into another, whose leading co-efficient will be unity.

9. Define eigen value and eigen vector of a square matrix.

10. Find the rank of the matrix A using the elementary row operation, where

$$A=\begin{bmatrix}1 & 2 & -1 & 4\\ 2 & 4 & 3 & 5\\ 3 & 2 & 6 & 7\end{bmatrix}$$

11. Define normal form of a matrix with an example.

P.T.O.

12. Find the value of λ for which the following system has a non-trivial solution :

$2x-y+2z=0$
$3x+y-z=0$
$\lambda x-2y+z=0$

SECTION - B

Answer **any four** of the following. **4x5=20**

13. If $p(x)$ and $q(x)$ be the open sentences with same replacement set then prove that $T[P(x) \vee q(x)] = T[P(x)] \cup T[q(x)]$.

14. Prove the following statement by indirect proof :
"If a+b is odd and a is even then b is odd".

15. Solve the equation $4x^4-24x^3+31x^2+6x-8=0$ given that the sum of the two roots of the equation is zero.

16. Solve the equation :
$40x^4+22x^3-21x^2-2x+1=0$ whose roots are in harmonic progression.

17. Show that the equation :
$2x^7+3x^4+3x+k=0$ has atleast four imaginary roots for all values of k.

18. Solve the equation :
$x^3-3x^2+12x+16=0$ by Cardon's method.

SECTION - C

Answer **any four** of the following. **4x5=20**

19. Find the rank of the matrix A by elementary row operations where :

$$A = \begin{bmatrix} 1 & 2 & -1 & 4 \\ 2 & 4 & 3 & 4 \\ 1 & 2 & 3 & 4 \\ -1 & -2 & 6 & -7 \end{bmatrix}$$

20. Find the inverse of :

$$A = \begin{bmatrix} 1 & 2 & -2 \\ -1 & 3 & 0 \\ 0 & -2 & 1 \end{bmatrix}$$

21. Solve completely the system of equations :

$x+6y+3z+8w=0$
$2x+4y+6z-w=0$
$3x+10y+9z+7w=0$
$4x+16y+12z+15w=0$

22. Test the following system for consistency and solve if it is consistent :

$x-7y+15z=-14$
$2x+3y-4z=6$
$3x-4y+11z=-8$
$5x-y+7z=-2$

23. Find the eigen values and eigen vectors of the matrix.

$$\begin{bmatrix} 1 & 2 \\ 2 & -2 \end{bmatrix}$$

24. Verify Cayley-Hamilton theorem for the matrix $\begin{bmatrix} 1 & 4 \\ 2 & 3 \end{bmatrix}$ and hence compute its inverse.

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B.Sc. I Semester Degree Examination, March/April - 2023

ZOOLOGY

Paper No. Z-1 : Biology of Non-Chordates

(CBCS)

Time : 3 Hours | Maximum Marks : 70

Note : *(i) Answer* ***all*** *Sections.*

(ii) Draw labelled diagrams wherever necessary.

SECTION - A

Answer **any five** of the following questions. **5x2=10**

1. What is metagenesis ?
2. Expand ICBN and ICZN.
3. Define syncytial epidermis.
4. What is Mantle ? In which phylum does it occur ?
5. What is encystation ?
6. What is the Chemical composition of the spicules of sponges ?

SECTION - B

Answer **any six** of the following. **6x5=30**

7. Write unique features of the phylum Echinodermata.
8. Describe the female reproduction system of prawn with a neat labelled diagram.
9. Write a note on the key characters of wuchereria bancrofti.
10. What is Vermicompost ? Explain the steps involved in the vermiculture.
11. Describe the Rules and Advantages of Binomial nomenclature.
12. Write a note on Syconoid and Asconoid types of Canal System.
13. Write the unique characteristics of the Phylum Mollusca.
14. Write a note on skeletal elements of sponges.

P.T.O.

SECTION - C

Answer **any three** of the following questions. 3x10=30

15. Explain the unique features of the Phylum Arthropoda and classify upto classes with examples.

16. Describe the Morphology of Obelia with a neat labelled diagram.

17. Write an essay on asexual cycle of Malarial parasite.

18. Describe the Morphology of Tapeworm with a neat labelled diagram.

19. Explain the digestive system of Pila globosa with a neat labelled diagram.

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B.Sc. I Semester Degree Examination, March/April - 2023

CHEMISTRY

OEC-1 : Chemistry In Daily Life

(NEP)

Time : 2 Hours | Maximum Marks : 60

Note : *Answer* ***all*** *sections.*

SECTION - A

Answer the following sub-questions. Each sub question carries **One** mark. **10x1=10**

1. (a) Mention the composition of Milk.

(b) Give an example for Dairy products.

(c) Mention one example for Flavour.

(d) Give an example for Artificial sweetener.

(e) Name the disease caused by deficiency of Vitamin C.

(f) Write one use of detergent.

(g) Define fuel cell.

(h) What is primary battery ?

(i) What is meant by Malnutrition ?

(j) Give an example for polymer.

SECTION - B

Answer **any four** of the following questions. Each question carries **five** marks. **4x5=20**

2. Explain the analysis of fat content in milk.

3. Explain the terms with examples.
(a) Adulterants
(b) Contaminants

4. Mention the sources of Vitamin B1 and Vitamin C.

P.T.O.

5. What are batteries ? Explain the classification of batteries with examples.

6. Define polymer. Explain the classification of polymers.

7. Write a note on Artificial sweeteners.

SECTION - C

Answer **any three** of the following questions. Each question carries **ten** marks. **3x10=30**

8. (a) Explain the analysis of minerals in milk and butter. **6**
   (b) Explain the determination of methyl alcohol in alcoholic beverages. **4**

9. (a) Explain the analysis of pesticide residue in food. **6**
   (b) Write a note on Food preservatives. **4**

10. (a) Write the composition of edible oil. Explain the rancidity of oils and fats. **6**
    (b) Mention the composition and uses of soaps and detergents. **4**

11. (a) Explain principle and applications of Primary and Secondary batteries. **6**
    (b) Write a note on renewable energy sources. **4**

12. (a) Explain the requirements of balanced and nutritious food. **6**
    (b) Mention the applications of polymer. **4**

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