Q. P. Code:126COM01XXXAEC01T

Reg No | | | | | | | | | | |

I Semester All Degree Examination, February/March, 2024

Subject: ENVIRONMENTAL STUDIES

Duration of Paper: 1 Hour | Maximum Marks :25

Instructions to candidate:
1) Check for complete printing of 25 questions.
2)The last page of the question paper may be used for rough work.
3) Each question has four multiple choice answer and choose the correct one.
4) Darken the appropriate circle with the ball pen
5) Damaging / over writing using whitener on the OMR sheets are strictly prohibited.
6) No candidates will be allowed to leave the examination Hall till the end of the session and without handling over his/her answer sheet to the invigilator.
7) Candidates should ensure that the invigilator has verified all the entries and that the invigilator has affixed his/her signature in the space provided on the OMR.

1. Largest ecosystem of earth is
   a) Biosphere b) Hydrosphere c) Lithosphere d) Biome
   ಭೂಮಿಯ ಅತಿ ದೊಡ್ಡ ಪರಿಸರ ವ್ಯವಸ್ಥೆ
   a)ಜೀವಗೋಳ b) ಜಲಗೋಳ c) ಲಿಥೋಸ್ಫೀಯರ್ d) ಬಯೋಮಿ
2. World environment day is on
   a) 5th may b) 5th june c) 18th july d) 16th august
   ವಿಶ್ವ ಪರಿಸರ ದಿನ
   a) 5ನೇ ಮೇ b) 5ನೇ ಜೂನ್ c) 18ನೇ ಜುಲೈ d) 16ನೇ ಅಗಸ್ಟ್
3. A large number of inter linked chains in an ecosystem together forms
   a) Carbon cycle b) Food web c) Nitrogen cycle d) Food chain
   ಪರಿಸರದ ವ್ಯವಸ್ಥೆಯಲ್ಲಿ ಹೆಚ್ಚಿನ ಸಂಖ್ಯೆಯ ಅಂತರಸಂಪರ್ಕಿತ ಸರಪಳಿಗಳು ಒಟ್ಟಾಗಿ ಈ ಕೆಳಗಿನವು ರೂಪಗೊಳ್ಳುತ್ತದೆ.
   a) ಕಾರ್ಬನ್ ಚಕ್ರ b) ಆಹಾರ ವೆಬ್ c) ಸಾರಜನಕ ಚಕ್ರ d) ಆಹಾರ ಸರಪಳಿಗಳು
4. Environmental protection act was passed in the year
   a) 1981 b) 1986 c) 1980 d) 1990
   ಪರಿಸರ ಸಂರಕ್ಷಣೆ ಕಾಯ್ದೆಯನ್ನು ಅಂಗೀಕರಿಸಿದ ವರ್ಷ
   a) 1981 b) 1986 c) 1980 d) 1990
5. The second trophic level in a lake is
   a) Fishes b) Benthos c) Phytoplankton d) Zooplanktons
   ಸರೋವರದಲ್ಲಿ ಎರಡನೆಯ ಟ್ರೋಫಿಕ್ ಮಟ್ಟ
   a)ಮೀನುಗಳು b)ಬೆಂತೋಸ್ c) ಫೈಟೋಪ್ಲಾಂಕ್ಟನ್ d)ಝೂ ಪ್ಲಾಂಕ್ಟನ್ಸ್

6. Which of the following is non – renewable source of energy?

a) Solar power b) Hydel power c) Fossil fuels d)Wind power

ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದು ನವೀಕರಿಸಲಾಗದ ಶಕ್ತಿಯ ಮೂಲವಾಗಿದೆ.

a) ಸೌರ ವಿದ್ಯುತ b) ಜಲವಿದ್ಯುತ c) ಪಳೆಯುಳಿಕೆ ಇಂಧನ d) ವಾಯುಶಕ್ತಿ

7. Which of the following is not an artificial ecosystem?

a) Forest b) Reservoir of dam c) Paddy field d) Garden

ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದು ಕೃತಕ ಪರಿಸರ ವ್ಯವಸ್ಥೆಯಲ್ಲ

a) ಅರಣ್ಯ b) ಆಣೆಕಟ್ಟಿನ ಜಲಾಶಯ c) ಬತ್ತದ ಗದ್ದೆ d) ಉದ್ಯಾನ

8. The animals which consumes decaying Organic matter is called

a) Detrivore b) Carnivore c) Omnivore d) Herbivore

ಕೊಳೆತ ಪದಾರ್ಥಗಳನ್ನು ತಿನ್ನುವ ಜೀವಿಗಳಿಗೆ ಹೀಗೆ ಕರೆಯುತ್ತಾರೆ

a) ಡೀಟ್ರಿವೋರ್ b) ಕಾರ್ನಿವೋರ್ c) ಓಮ್ನಿವೋರ್ d) ಹರ್ಬಿವೋರ್

9. AQI Stands for

a) Air Qualitative index
b) Air Quantitative index
c) Air Quality index
d) Air quantum index

AQI ಎಂದರೆ

a) ವಾಯು ಗುಣಾತ್ಮಕ ಸೂಚ್ಯಂಕ
b) ವಾಯು ಪರಿಣಾತ್ಮಕ ಸೂಚ್ಯಂಕ
c) ವಾಯು ಗುಣಮಟ್ಟ ಸೂಚ್ಯಂಕ
d) ವಾಯು ಕ್ವಾಂಟಮ್ ಸೂಚ್ಯಂಕ

10. Which of the following is responsible for air pollution

a) Carbon dioxide b) Burning fossil fuels c) Both (a) and (b) d) None of the above

ಕೆಳಗಿನ ಯಾವುವು ವಾಯು ಮಾಲಿನ್ಯಕ್ಕೆ ಕಾರಣವಾಗಿದೆ.

a) ಕಾರ್ಬನ್ ಡೈಆಕ್ಸೈಡ್ b) ಪಳೆಯುಳಕೆ ಇಂಧನ ಸುಡುವುದು c) (a) ಮತ್ತು (b) d) ಯಾವುದು ಅಲ್ಲ

11. Which out of the following are the causes of soil erosion?

a) Unrestricted grazing
b) Over cultivation
c) Deforestation
d) All of the above

ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಮಣ್ಣಿನ ಸವೆತಕ್ಕೆ ಕಾರಣಗಳು ಯಾವುವು?

a) ಅನಿಯಂತ್ರಿತ ಮೇಯಿಸುವಿಕೆ
b) ಅತಿಯಾದ ಕೃಷಿ
c) ಅರಣ್ಯನಾಶ
d) ಮೇಲಿನ ಎಲ್ಲವೂ

153508

47002/47702/48302/A0020

Reg. No. | | | | | | | | | |

I Semester B.Sc. (NEP) Degree Examination, March/April- 2024

ENGLISH

Generic English-I (AECC)

(Regular)

Time : 2 Hours **Maximum Marks : 60**

I. Answer the following questions in a word a phrase or a sentence each. (10×1= 10)

1) Which is the commonest of all liquids?
2) What is meant by a provincial or cockney dialect?
3) Who is Tembu?
4) Where do much of the rice is grown?
5) How far is the station from Baldeo's tribal village?
6) Name the translator of vachana 820.
7) Who is a lord of meeting rivers?
8) What is the theme of the poem To India My Native Land?
9) Which road did the poet choose?
10) Who wrote the poem "The Road not Taken"?

II. a) What are the claims of G.B show that no native speaker speaks correct English? **(1×10 = 10)**

(OR)

b) Sketch the character of Baldeo.

III. a) Critically appreciate the poem "To India My Native Land". **(1×10 =10)**

(OR)

b) Bring out the symbolism presented in the poem "The Road Not Taken"

[P.T.O.

IV. Answer any Two of the following questions. **(2×5 = 10)**

1) Draft a copy of your introduction befor a panel of interview members highlighting your strengths.

2) Write a congratulatory note on your friends success in getting selected for the post of IAS.

3) Draft an inquiry dialogue between you and a book seller after you visit a book depot to buy a book.

4) Write a note on introducing your family members to your friends on their visit to your home.

V. Answer any Four of the following sets. **(4×5 =20)**

A) Use the following words as directed. **(5×1 = 5)**

1) Danger as an adjective.

2) Calculation as a verb.

3) Accept as a noun.

4) Bad as an adverb.

5) Sing as a noun.

B) Fill in the blanks with suitable Articles. **(5×1 = 5)**

1) His brother is ——— honest man.

2) ——— sun shines by day.

3) She saw ——— apple on the branch.

4) He is ——— university professor.

5) Honesty is ——— best policy.

C) Fill in the blanks with suitable preposition. **(5×1 = 5)**

1) He died——— Cholera.

2) The school opens—— 9:30 am.

3) The essay is written —— EV lucas.

4) She will come—— Sunday.

5) The young ladies went —— the hall.

D) Convert the following direct questions into indirect questions. (5×1 = 5)

1) Where is market street?

2) Do they work in Canada?

3) What time does the bank open?

4) Is he a teacher?

5) When does the next train arrive?

E) Frame the negative questions. (5×1 = 5)

1) Students are making furniture.

2) The carpenter was making a noise.

3) He is a player.

4) She was in the college.

5) She is knitting a sweater.

F) Frame the questions as directed (5×1 = 5)

1) He works in an office.

(Frame 'WH' question to get underlined words as answer)

2) Valmiki wrote Mahabharata.

(Frame 'WH' question to get underlined words as answer)

3) She lives in Hongkong———?

(Add tag)

4) Yes it was a useful class.

(Frame Yes/No question to get this answer)

5) No he did not attend the function

(Frame Yes/No question to get this answer)

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47005/48305/A0050

Reg. No. | | | | | | | | |

I Semester B.Sc. (NEP) Degree Examination, March/April - 2024

HINDI

1) कहानी कुंज 2) हिन्दी भाषा के विविध रुप

Paper-AECC

(Regular)

Time : 2 Hours **Maximum Marks : 60**

I. किन्हीं दस प्रश्नों के उत्तर लिखिए। **(10×1=10)**

1. कहानी कुंज के अंतर्गत ..... कहानियाँ है।

   A) 9 B) 10 C) 8

2. उदय प्रकाश का जन्म कब हुआ?

   A) 1954 B) 1952 C) 1950

3. 'कितने पाकिस्तान' उपन्यास ..... में प्रकाशित हुआ था।

   A) 2000 B) 2001 C) 2002

4. आकाशदीप कहानी में चित्रीत नायिका का नाम ..... है।

   A) चंपा B) राधिका C) अलका

5. हिन्दी दिवस कब मनाया जाता है।

   A) 24 अक्तुबर B) 24 दिसंबर C) 14 सितंबर

6. इन में से कौन छायावादी कवि नहीं है।

   A) जयशंकर प्रसाद B) महादेवी वर्मा C) कुमार अंबुज

7. मोहन राकेश का निधन सन ..... ई.में हुआ।

   A) 1972 B) 1974 C) 1971

8. बाल मनोविज्ञान से संबंधित कहानी ..... है।

   A) साइकिल B) आदमी का बच्चा C) अपरिचित

9. बोलचाल की भाषा ..... होती है।

   A) कठिन B) लचीती C) मानक

P.T.O.

10. राजभाषा हिंदी के स्वरुप का फॉर्मुला किसने पेश किया?

A) लाल बहादुर शास्त्री B) पं.जवाहरलाल नेहरु C) एन्.गोपाल स्वामी अय्यंगार

11. 'दीशी' यह पात्र किस कहानी में चित्रित है?

A) अपरिचित B) डिप्टी कलक्टरी C) खोयी हुई दिशाएँ

12. नाटक के क्षेत्र में प्रथम स्थान पानेवाले नाटककार ..... है।

A) मोहन राकेश B) कमलेश्वर C) अमरकांत

II. किन्हीं तीन की ससंदर्भ व्याख्या कीजिए। (3×5=15)

1. "क्या स्त्री होना पाप है?"
2. देखो तो माली को! कम बख्त के तीन बच्चे पहले है, एक और हो गया।
3. "चलो फिर आज तो हो ही जाये, क्या है इस जिंदगी में।"
4. भाई, समझलो, तुम्हारे करम में नौकरी लिखी ही नहीं।
5. भालू को साइकिल का पागलपन था। वह रात में भी, जब सो जाने,साइकिल चलाना।

III. किन्हीं दो प्रश्नों के उत्तर लिखिए। (2×10=20)

1. 'कफन' कहानी का सारांश अपने शब्दो में लिखिए?
2. 'सलाम' कहानी का उद्देश्य स्पष्ट कीजिए?
3. खोयी हुई दिशाएँ' कहानी में चित्रित समस्याओं के प्रति जानकारी दीजिए?
4. 'अपरिचित' कहानी की विशेषताएँ बताईए?

IV. किन्ही पाँच प्रश्नों के उत्तर लिखिए। (5×2=10)

1. हिन्दी भाषा के विविध रूप संक्षेप में लिखिए।
2. मानक भाषा किसे कहते है?
3. राजभाषा हिन्दी के स्वरूप का फॉर्मूला किसने पेश किया और उसे कब स्वीकारा?
4. राष्ट्रभाषा की परिभाषा बताईए।
5. बोलचाल की भाषा का अर्थ लिखिए।
6. संपर्क भाषा किसे कहते है?
7. राज्यभाषा किसे कहते है?

V. किसी एक प्रश्न का उत्तर लिखिए। (1×5=5)

1. भाषा और बोली में अंतर स्पष्ट बताइए।
2. हिन्दी भाषा के विविध रूपों पर प्रकाश डालिए।

Q.P.Code: 126COM01XXXSEC01T

Reg No | U | 2 | 6 | Y | A | 2 | 3 | S | 0 | 0 | S | 1 |

I Semester All Degree Examination, Feb/March, 2024

Paper: SEC – 01

SUBJECT: Digital Fluency

23 correct

Duration of paper : 1 Hours **Maximum Marks : 25**

Instructions to candidates:
Answer all questions. All questions are MCQS. Each question carries 1 marks. Answers are to be written in OMR Sheet only.

1) Computer is a _____

a. Electronic Machine b. Elector machine c. Both a and b. d. None of the above.

2)Characteristics of computer are

a. High speed b. High storage capacity c. Accuracy d. All of the above

3)ALU is_____

a. Automatic logic unit b. Arithmetic logic unit c. Arithmetic log unit d. None of the above.

4)ROM stands for_____

a. Ransom only memory b. Read only memo c. Read only memory d. All of the above

5)The basic components of second generation computer is

a. Vaccum tubes b. Microprocessor c. Magnetic tape d. Transistor

6) Which of the following is not an input device.

a. Monitor b. Keyboard c. joystick d. Mouse

7) Applications of computers are----------

a. Business b. Banking c. Education d. All of the above.

8) Expansion of IOT is

a. Internet of Think b. Internet of Thanks c. Internet of Things d. All of the above.

9) MS-Word is used for----------

a. Creating work sheets b. Creating documents c. Creating presentation d. None of the above.

10) The short cut key for paste

a. Ctrl+b b. Ctrl+x c. Ctrl +v d. None of the above.

11) A computer program that displays and manipulate data arranged in rows and columns.

a. MS-Excel b. MS-Word c. MS-Power point d. MS-Access.

12) Expansion of email is

a. Electric mail b. Electron Mail c. Electronic mail d. All of the above.

13) Email spam is also known as ----------

a. E scam b. E Spoof c. Junk Mail d. None of the above.

14) What does CC means in E-mail?

a. Carbon copy b. Carbon card c. Carbon computer d. All of the above.

15) Google forms are used for

a. Creating surveys b. Creating & analysis of response c. Both a and b d. None of the above

16) Google drive is used for

a. Uploading files b. uploading folders c. storing of files and folders d. All of the above

17) Google meet is used for

a) Video Conferencing b) Audio Conferencing c) Both a and b d) none of the above.

18. Cookies were originally designed for_____

a) Server side programming b) client side programming

c) Both a and b d) none of the above.

19) Expansion of MOOC

a) Massive online open course b) massive open online course

c) Both a and b d) none of the above

20) Which of the following is not a e-learning plat form.

a) Swayam b) MOOC c) both a and b d) none of the above

21. Which of the following are merits of E- commerce?

a) Fast process b) 24 hours available c) reduced cast price d) all of the above.

22) What is the full form of E-commerce?

a) Electric commerce b) Entertainment commerce

c) Electricity commerce d) Electronic commerce.

23. What is the full form of HTTP?

a) Hypertext test protocol b) hypertext transfer protocol

c) Both a and b d) none of the above.

24. What is firewall?

a) It is network security device b) It filters incoming & outgoing network traffic

c) Both a and b d) none of the above

25) The Function of Hacker is

a) Bad people who violate system with bad intensions. b) Both a and b

c) Bad people who hack system for good purpose d) None of the above

Q. P. Code: 126BSC01LANAEC03T/ 126BCA01LANAEC03T

Reg No | U | 2 | 6 | Y | A | 2 | 3 | S | 0 | 0 | 3 |

BSc/ BCA I Semester Examination, Feb/March, 2024

Subject: Generic English –I

Paper: AECC

Duration of Paper: 2 Hrs | Maximum Marks :60

Instructions to candidates: 1) Read all questions carefully and answer

2) Write in neat and clean hand writing

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

1) What is the main cause of soil erosion?
2) What does C.V. Raman mean by 'cheering sight'? rain fed tanks
3) What is meant by a Provincial or Cockney dialect? East End of London
4) What was Baldeo?
5) How far is the station from Baldeo's tribal village? 3 miles
6) Who translated Basavanna's 'vachana 820'?
7) What does Basavanna compare his body to?
8) What is the theme of the poem 'To India my Native Land'?
9) What is the theme of the poem 'The Road Not Taken'?
10) Who is the author of the poem "The Road Not Taken'?

II A) Why does C.V. Raman think that water is the true elixir of life? (DL) (1x10=10)

OR

B) Describe the courage, honour and duty consciousness of Baldeo.

III A) Discuss the theme of the poem 'Vachana 820'. (1x10=10)

OR

B) Critically appreciate the poem 'The Road Not Taken'.

IV Answer any two of the following questions (2x5=10)

1) Introduce yourself before a panel of interview members as an eligible candidate for the post of a high school teacher.
2) Draft five different congratulatory sentences on the success of your friend in getting selected in the national volleyball team.
3) Write instructions on the task of 'Preparing juice' in a paragraph by using the words such as – firstly, after this, next, then, the next step is, subsequently, in the following stage, etc.

4) Draft an inquiry dialogue between you and a book seller on your visit to the bookstall to buy a book.

V Answer any four of the following sets. (4x5=20)

A) Use the following words in sentences as directed : (5x1=05)

1) 'Habit' as an adjective in a sentence.
2) 'Glory 'as a verb in a sentence.
3) 'Sing 'as a noun in a sentence.
4) 'Brave' as an adverb in a sentence.
5) 'Emotion' as an adverb in a sentence.

B) Fill in the blanks with suitable articles. (5x1=05)

1) Iron is ....a.... useful metal .
2) Do you look at ....the.... blue sky.
3) Madhavi is ....an.... attractive girl.
4) My friend is ....a.... European.
5) ....the.... Ganga is a sacred river.

C) Fill in the blanks with suitable prepositions. (5x1=05)

1) I received a letter ....from.... my sister.
2) Tara talked .... pollution.
3) Delhi is the capital .... India.
4) I usually write .... a ball point pen.
5) She looked .... me.

D) Covert the following Direct questions into Indirect questions. (5x1=05)

1) Is he captain of the team?
2) Where does he play cricket?
3) Was there any sense in his speech?
4) Does he live in Paris?
5) Do they work in America?

E) Frame the negative questions (5 x 1=05)

1) He is fond of Italian food.
2) It would be nice to paint that wall green?
3) He is a good tennis player.
4) She is a noble lady.
5) The girl got what she desired.

F) Frame the questions as directed (5 x 1=05)

1) Mohan went to market. (Frame wh-question so as to get underlined word as answer)
2) He loved Janaki (Frame wh-question so as to get underlined word as answer)
3) I am afraid of snakes (Add question tag)
4) She was careless in driving her car. (Frame Yes/No question)
5) She comes to college by bus. (Frame Yes/No question)

Q. P. Code:126BSC01PHYDSC91T

Reg. No. | U | 2 | 6 | Y | A | 2 | 3 | S | 0 | 0 | 3 | 1 |

B.Sc I Semester Examination, Feb/March, 2024
Paper: Mechanics and properties of Matter
Subject: PHYSICS (DSC)

Duration of paper : 2 Hours | Maximum Marks =60

Instructions to candidates: Calculators are allowed for calculations, write intermediate steps.

Q.No. 1 Answer any Six questions (6x2 =12)

a. State the law of conservation of linear momentum.
b. What is torque? and write an expression for relation between angular momentum, moment of inertia and torque.
c. What the **GPS** and **NaVIC** Stands for?
d. Write an expression for moment of inertia of a hollow cylinder about its own axis.
e. Define Poisson's ratio and write its expression.
f. What is neutral axis?
g. What is the effect of impurities on surface tension of a liquid?
h. What is turbulent flow?

Q.No.2. answer "a and b" OR "c and d".

a. Derive an expression for final velocity in case of elastic collision in one dimension in center frame of reference. (8)

b. A solid bob of mass 0.25 kg is revolving in an orbit of radius 3.2m. it undergo an angular displacement of 46^0 in 8 sec. Calculate angular momentum of the solid bob about the center of orbit. (4)

OR

c. state the principle of rocket. Obtain expression for velocity of a single stage rocket.

d. A mass on a spring oscillate along a vertical line, taking 15s to complete 8 oscillations. (2+6)
calculate the a. Time period
b. The angular frequency. (4)

Q. No. 3 Answer "a and b" OR "c and d"

a. Define binding energy of a satellite and derive expression for it. (2+6)

b. Write a note on weightlessness. (4)

OR

c. Give the theory of flywheel and obtain expression for its moment of inertia. (8)

d. A uniform circular disc of diameter 250 mm Vibrates about horizontal axis perpendicular to its plane and at a distance of 0.06m from the center Calculate the time period of oscillation and the equivalent length of the compound pendulum. (4)

Q.No. 4. Answer "a and b" OR "C and d

a. Derive the relation between elastic constants young's modulus (Y) Bulk modulus (K) and poisons ratio (σ) (8)

b. A Sphere of mass 1200g and dimeter 8cm is suspended from a wire of length 1m and radius 0.8mm If the period of a torsional oscillations of the system is 2,1 seconds. Calculate the modulus of rigidity of the given wire. (4)

OR

c. What is cantilever? and obtain an expression for depression produced at its free loaded end of a light cantilever. (2+6)

d. Derive an expression for bending moment of a beam. (4)

Q . No .5. Answer "a and b" OR "C and d"

a. Discuss pressure difference across curved surface and deduce an expression for excess of pressure inside spherical liquid drop. (8)

b. Calculate depth of water at which an air bubble of radius 0.6mm may remain in equilibrium. Given, surface tension of water = 70×10^{-3} N/m Density of water = 10^3 kg/m^3 (4)

OR

c. Define coefficient of viscosity. Derive Poiseuille's equation for the flow of liquid in a tube. (2+6)

d. A plate of metal 0.02m^2 area rests on a layer of castor oil 2.5mm thick, whose coefficient of viscosity is 1.6 N-s/m^2. Calculate the horizontal force required to move the plate with a uniform speed of 4.2cm/s . (4)

Q . P. Code: 126BSC01LANAEC01T

Reg No U26YA23S0031

BSc I Semester Examination, Feb/March, 2024

Paper: Ability Enhancement Compulsory Course -1

Subject: ಕನ್ನಡ ಸಂವರ್ಧನೆ

Duration of Paper: 2 Hrs — Maximum Marks :60

ವಿಸೂ : ಭಾಷೆ ಹಾಗೂ ಬರಹದ ಶುದ್ಧಿಗೆ ಗಮನ ಕೊಡಲಾಗುವುದು .

1. ಕನ್ನಡದ ದೀಪ-ಕವಿತೆ ವೈಶಿಷ್ಟ್ಯತೆಗಳನ್ನು ಚರ್ಚಿಸಿರಿ. 1*10=10

ಅಥವಾ

ಕರ್ನಾಟಕದ ಇತಿಹಾಸ ಹಾಗೂ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಕುರಿತಾಗಿ ವಿವರಿಸಿ .

2. ಮಣ್ಣಿನ ಮರವಣಿಗೆ – ಕವಿತೆಯ ಆಶಯ ವಿವರಿಸಿ . 1*10=10

ಅಥವಾ

ಕೆರೆಯ ಕುರಿತಾಗಿ ಶಿವರಾಮ ಕಾರಂತರ ವಿಚಾರಗಳೇನು ? ನಿರೂಪಿಸಿ .

3. ದೇವರು – ಪೂಜಾರಿ ಕವಿತೆಯ ಸ್ವಾರಸ್ಯ ವಿವರಿಸಿ . 1*10=10

ಅಥವಾ

ಮೂರು ವ್ಯಕ್ತಿಚಿತ್ರಗಳಲ್ಲಿರುವ ಮೂರು ವ್ಯಕ್ತಿತ್ವಗಳನ್ನು ಪರಿಚಯಿಸಿ .

4. ರತ್ನಾಕರವರ್ಣಿಯ ಭರತ-ಬಾಹುಬಲಿ ಸಮರ ಚಿತ್ರಿಸಿರಿ. 1*10=10

ಅಥವಾ

ಸಾಹಿತ್ಯದಲ್ಲಿ ವೈಚಾರಿಕತೆ ವಿಷಯವನ್ನು ಚರ್ಚಿಸಿರಿ .

5. ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ ಬೇಕಾದ ಎರಡಕ್ಕೆ 2*5=10

1) ಬೆನಗಲ್ ರಾಮರಾವ್
2) ಬೀಜ ಮತ್ತು ಭೂಮಿ
3) ಜ್ಯೋತಿಷ್ಯ ಅರ್ಥಪೂರ್ಣವೋ
4) ಬಿತ್ತನೆ ಹಾಡು

6. ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿ. 10*1=10

1) ಕನ್ನಡ ಸಂವರ್ಧನೆಯ ಸಂಪಾದಕರು ಯಾರು?
2) ಡಾ. ಚಿದಾನಂದಮೂರ್ತಿ ಯಾರು?
3) ಕನ್ನಡ ಸಂವರ್ಧನೆಯ ಲೇಖಕರು ಯಾರು?
4) ವಂದನಾಶಿವ ಅವರು ಬರೆದ ಪ್ರಬಂಧ ಯಾವುದು?
5) ಚನ್ನವೀರ ಕಣವಿಯವರ ಯಾವ ಸಮ್ಮೇಳನದ ಸರ್ವಾಧ್ಯಕ್ಷರಾಗಿದ್ದರು?
6) ನನ್ನೊಳು ನದಿಯೋ ನದಿಯೊಳು ನಾನೋ ಎಂದು ಕೇಳಿದವರಾರು?
7) ಡಾ.ಎಚ್. ನರಸಿಂಹಯ್ಯನವರ ಆತ್ಮಕಥನದ ಹೆಸರೇನು?
8) ಕುವೆಂಪು ಅವರ ಆತ್ಮಚರಿತ್ರೆ ಯಾವುದು?
9) ಡಾ. ಎಚ್ಚೆಸ್ಕೆ ಯಾವ ವೃತ್ತಿಯಲ್ಲಿದ್ದರು?
10) ಬಿತ್ತನೆ ಹಾಡು ಹಾಡಿದವರಾರು?

Q . P. Code: 126BSC01LANAEC01T

Reg No | | | | | | | | | | |

BSc I Semester Examination, Feb/March, 2024

Paper: Ability Enhancement Compulsory Course -1

Subject: ಕನ್ನಡ ಸಂವರ್ಧನೆ

Duration of Paper: 2 Hrs | Maximum Marks :60

ವಿಸೂ : ಭಾಷೆ ಹಾಗೂ ಬರಹದ ಶುದ್ಧಿಗೆ ಗಮನ ಕೊಡಲಾಗುವುದು .

1. ಕನ್ನಡದ ದೀಪ-ಕವಿತೆ ವೈಶಿಷ್ಟ್ಯತೆಗಳನ್ನು ಚರ್ಚಿಸಿರಿ. 1*10=10

ಅಥವಾ

ಕರ್ನಾಟಕದ ಇತಿಹಾಸ ಹಾಗೂ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಕುರಿತಾಗಿ ವಿವರಿಸಿ .

2. ಮಣ್ಣಿನ ಮರವಣಿಗೆ – ಕವಿತೆಯ ಆಶಯ ವಿವರಿಸಿ . 1*10=10

ಅಥವಾ

ಕೆರೆಯ ಕುರಿತಾಗಿ ಶಿವರಾಮ ಕಾರಂತರ ವಿಚಾರಗಳೇನು ? ನಿರೂಪಿಸಿ .

3. ದೇವರು – ಪೂಜಾರಿ ಕವಿತೆಯ ಸ್ವಾರಸ್ಯ ವಿವರಿಸಿ . 1*10=10

ಅಥವಾ

ಮೂರು ವ್ಯಕ್ತಿಚಿತ್ರಗಳಲ್ಲಿರುವ ಮೂರು ವ್ಯಕ್ತಿತ್ವಗಳನ್ನು ಪರಿಚಯಿಸಿ .

4. ರತ್ನಾಕರವರ್ಣಿಯ ಭರತ-ಬಾಹುಬಲಿ ಸಮರ ಚಿತ್ರಿಸಿರಿ. 1*10=10

ಅಥವಾ

ಸಾಹಿತ್ಯದಲ್ಲಿ ವೈಚಾರಿಕತೆ ವಿಷಯವನ್ನು ಚರ್ಚಿಸಿರಿ .

5. ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ ಬೇಕಾದ ಎರಡಕ್ಕೆ 2*5=10

1) ಬೆನಗಲ್ ರಾಮರಾವ್
2) ಬೀಜ ಮತ್ತು ಭೂಮಿ
3) ಜ್ಯೋತಿಷ್ಯ ಅರ್ಥಪೂರ್ಣವೋ
4) ಬಿತ್ತನ ಹಾಡು

6. ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿ. 10*1=10

1) ಕನ್ನಡ ಸಂವರ್ಧನೆಯ ಸಂಪಾದಕರು ಯಾರು?
2) ಡಾ. ಚಿದಾನಂದಮೂರ್ತಿ ಯಾರು?
3) ಕನ್ನಡ ಸಂವರ್ಧನೆಯ ಲೇಖಕರು ಯಾರು?
4) ವಂದನಾಶಿವ ಅವರು ಬರೆದ ಪ್ರಬಂದ ಯಾವುದು?
5) ಚನ್ನವೀರ ಕಣವಿಯವರ ಯಾವ ಸಮ್ಮೇಳನದ ಸರ್ವಧ್ಯಕ್ಷರಾಗಿದ್ದರು?
6) ನನ್ನೊಳು ನದಿಯೋ ನದಿಯೊಳು ನಾನೋ ಎಂದು ಕೇಳಿದವರಾರು?
7) ಡಾ.ಎಚ್. ನರಸಿಂಹಯ್ಯನವರ ಆತ್ಮಕಥನದ ಹೆಸರೇನು?
8) ಕುವೆಂಪು ಅವರ ಆತ್ಮಚರಿತ್ರೆ ಯಾವುದು?
9) ಡಾ. ಎಚ್ಕೆಸ್ ಯಾವ ವೃತ್ತಿಯಲ್ಲಿದ್ದರು?
10) ಬಿತ್ತನ ಹಾಡು ಹಾಡಿದವರಾರು?

Q. P. Code : 126BSC01MATDSC91T

Reg No: | | | | | | | | | | | |

BSC I Semester Examination, Feb/March, 2024
Subject: Mathematics
Paper: Algebra-I and Calculus-I

Duration of Paper: 02 hours Max. Marks:60

Instruction to the Candidate:

1.Answer any six Questions from Question 1.
2.Answer any three questions 2,3,4& 5

Q. No.1 Answer any six of the following Questions. **(2x6=12)**

a. Define echelon form of a matrix.

b. Find the rank of a matrix $\begin{bmatrix} 2 & 3 & 4 \\ 3 & 1 & 2 \\ -1 & 2 & 2 \end{bmatrix}$

c. Prove that $\emptyset = \theta/2$, for the cardioid $r=a(1-\cos\theta)$

d. Define polar sub tangent and polar sub-normal

e. State Cauchy's mean value theorem.

f. Evaluate $\lim_{x\to 0}\left(\frac{x-\sin x}{x^3}\right)$

g. Find the n^{th} derivative $\log(ax+b)$.

h. If $y= \sin 2x$ then find y_n.

Q. No 2. Answer any three of the following. **(3x4=12)**

a. Verify Cayley –Hamilton theorem for matrix $\begin{bmatrix} 2 & -1 & 2 \\ -1 & 2 & -1 \\ 1 & -1 & 2 \end{bmatrix}$ and find A^{-1}

b. Prove that the rank of a matrix is unaltered by the addition of a constant multiple of
   a. the elements of a row to the corresponding elements of another row.

c. c. Find the rank of the matrix $\begin{bmatrix} 1 & 2 & 1 & 2 \\ 1 & 3 & 2 & 2 \\ 2 & 4 & 3 & 4 \\ 3 & 7 & 4 & 6 \end{bmatrix}$ by reducing it to echelon form.

d. Show that $2x+6y=-11$; $6x+20y-6z=-3$; $6y-18z=-1$ are inconsistent.

Q.No.3. Answer any three of the following. **(3x4=12)**

a. Describe the angle between the radius vector and the tangent for the curve r=f(θ).

b. Prove that the curves r=a(1+sinθ),r=a(1-sinθ) are cuts orthogonally.

c. Write usual notations prove that $\frac{1}{p2} = \frac{1}{r2} + \frac{1}{r4}(\frac{dr}{d\theta})^2$

d. Find the radius of curvature in Cartesian form.

Q.No. 4. Answer any three of the following **(3x4=12)**

a. If f(x) is continuous in [a,b] then show that it attains In bonds al least once in that interval.

b. Let $\lim_{x\to a} f(x) = l, \lim_{x\to a} g(x) = m$ prove that $\lim_{x\to a}[f(x) + g(x)] = l + m.$

c. State and prove Rolle's theorem.

d. Evaluate: $\lim_{x\to 0} \frac{e^x - e^{-x} - 2x}{x^2 \tan x}$

Q. N O. 5. Answer any three of the following **(3x4=12)**

a. If y = e^{ax} cos (bx+c) them find y_n.

b. Find the n^{th} derivative of sinx sin 2x. sin 3x.

c. Prove the Leibnitz's theorem for the net derivative of a Product of two functions.

d. If y = a cos (logx) +b sin (logx) then prove that
$x^2 y_{n+2} + (2n+1)xy_{n+1} + (n^2+1)y_n = 0$

Q. P. Code:126BSC01CHEDSC91T

Reg No | | | | | | | | | | | |

B.Sc. I Semester Examination, Feb/March, 2024

Subject: CHEMESTRY (DSC)

Duration of Paper: 2 Hrs. **Maximum Marks :60**

Instruction to the Candidate:

1. All questions are compulsory.
2. Draw a neat labeled diagram and give equations wherever necessary.

1) Answer any six of the following. **(6x2=12)**

a) What is accuracy? Express it as percentage relative error.
b) What volume of 11N concentrated HCL is required to prepare 500CC of decinormal acid solution?
c) State Heisenberg's uncertainty principle.
d) What is orbital? Mention shape of S–orbital.
e) What are electrophiles? Give two examples.
f) What is electrometric effect?
g) What is Root mean square velocity?
h) Define collision diameter.

2) Answer any three of the following **(3x4=12)**

a) Write about determinate errors and their minimization
b) What is titration curve? Explain the titration curve of strong acid and weak base
c) Explain the theory of metal ion indicators taking Erichrome Black T used in EDTA titrations
d) Write about the following
   i) Redox indicators
   ii) Precipitation titrations

3) Answer any three of the following **(3x4=12)**

a) Derive an expression for radius of electron in hydrogen atom
b) Write the significance of quantum numbers
c) state and explain the following
   i) Aufbau principle
   ii) Hund's rule of maximum multiplicity
d) What is screening effect? Write the trend of ionization energy in groups and periods of S and P-block elements

4) Answer any three of the following **(3x4=12)**

a) Explain the Inductive effect with examples

b) Write about the following with examples

i) Elimination reactions.

ii) Rearrangement reactions.

c) Write the following

i) Homolytic fission of bond and relative intermediate formed in this

ii) Huckel's rule of aromaticity.

d) Explain the following with example

i) Wartz reaction.

ii) Wartz- Fittig reaction

5. **Answer any three of the following.** **(3x4=12)**

a) Derive the relation between critical constants and Vander Waal's constants

b) Write about the following

i) Most probable velocity.

ii) Mean free Path

c) Derive the modified distribution law when the solute undergoes dissociation in one of the solvents

d) 1000 cc of aqueous solution contains 5 gm of substance and 1000 CC of ether is to be used in the extraction. Calculate the amount of Substance left unextracted after 5 extractions using 200 CC of solvent each time. (Distribution Coefficient of the Substance between ether and water is 3)

Q. P. Code:126BSC01CHEDSC91T

Reg No | | | | | | | | | | |

B.Sc. I Semester Examination, Feb/March, 2024

Subject: CHEMESTRY (DSC)

Duration of Paper: 2 Hrs. **Maximum Marks :60**

Instruction to the Candidate:

1. All questions are compulsory.
2. Draw a neat labeled diagram and give equations wherever necessary.

1) Answer any six of the following. **(6x2=12)**

a) What is accuracy? Express it as percentage relative error.
b) What volume of 11N concentrated HCL is required to prepare 500CC of decinormal acid solution?
c) State Heisenberg's uncertainty principle.
d) What is orbital? Mention shape of S–orbital.
e) What are electrophiles? Give two examples.
f) What is electrometric effect?
g) What is Root mean square velocity?
h) Define collision diameter.

2) Answer any three of the following **(3x4=12)**

a) Write about determinate errors and their minimization
b) What is titration curve? Explain the titration curve of strong acid and weak base
c) Explain the theory of metal ion indicators taking Erichrome Black T used in EDTA titrations
d) Write about the following
   i) Redox indicators
   ii) Precipitation titrations

3) Answer any three of the following **(3x4=12)**

a) Derive an expression for radius of electron in hydrogen atom
b) Write the significance of quantum numbers
c) state and explain the following
   i) Aufbau principle
   ii) Hund's rule of maximum multiplicity
d) What is screening effect? Write the trend of ionization energy in groups and periods of S and P-block elements

4) Answer any three of the following **(3x4=12)**

a) Explain the Inductive effect with examples

b) Write about the following with examples

i) Elimination reactions.

ii) Rearrangement reactions.

c) Write the following

i) Homolytic fission of bond and relative intermediate formed in this

ii) Huckel's rule of aromaticity.

d) Explain the following with example

i) Wartz reaction.

ii) Wartz- Fittig reaction

5. Answer any three of the following. **(3x4=12)**

a) Derive the relation between critical constants and Vander Waal's constants

b) Write about the following

i) Most probable velocity.

ii) Mean free Path

c) Derive the modified distribution law when the solute undergoes dissociation in one of the solvents

d) 1000 cc of aqueous solution contains 5 gm of substance and 1000 CC of ether is to be used in the extraction. Calculate the amount of Substance left unextracted after 5 extractions using 200 CC of solvent each time. (Distribution Coefficient of the Substance between ether and water is 3)

Q. P. Code: 2A1KANL01T

Reg No | | | | | | | | | | |

B. Sc I Semester (SEP Regular) Examination, Feb/March -2025

Subject: Kannada (Basic) ಆವಶ್ಯಕ ಕನ್ನಡ

(ಸಾಹಿತ್ಯ ಸೊಬಗು-೧)

Duration of Paper: 3 Hrs. **Maximum Marks :80**

Instruction to the Candidate: ಭಾಷೆ ಮತ್ತು ಬರಹದ ಶುದ್ಧಿಗೆ ಗಮನಕೊಡಲಾಗುವುದು.

ಪ್ರ 1) **ಬೇಕಾದ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.** **(10x3=30)**

a) ಸಮೂಹ ಮಾಧ್ಯಮಗಳಲ್ಲಿ ಕನ್ನಡ ಭಾಷೆಯು ಹೇಗೆ ಬಳಕೆಯಾಗುತ್ತಿದೆ? ಅದರ ಅಸ್ತಿತ್ವ ವಿವರಿಸಿ.

b) ವಚನಗಳಲ್ಲಿ ಮೂಡಿ ಬಂದಿರುವ ಸಾಮಾಜಿಕ ಆಶಯ ಕುರಿತು ಬರೆಯಿರಿ.

c) 'ರೊಟ್ಟಿ'ಕಥೆ ಹಸಿವಿನ ಧಾರುಣತೆಯೊಂದಿಗೆ ವರ್ತಮಾನದ ಘಟನೆ ಮತ್ತು ವ್ಯಕ್ತಿಯ ಮುಖಾಮುಖಿಯಾಗಿದೆ ವಿವರಿಸಿ.

d) 'ಉಚಲ್ಯಾ ' ಅಲೆಮಾರಿ ಸಮಾಜದ ಬದುಕಿನ ಯಾತನೆಯಾಗಿದೆ ಚರ್ಚಿಸಿರಿ.

e) 'ರಕ್ತರಾತ್ರಿ – ವಿಮರ್ಶೆ' ಕಂದಗಲ್ಲ ಹನುಮಂತರಾಯರ ಪ್ರತಿಭಾ ಮೌಲ್ಯವನ್ನು ಹೆಚ್ಚಿಸಿದ ವಿವರಿಸಿರಿ.

ಪ್ರ 2) **ಬೇಕಾದ ನಾಲ್ಕಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.** **(5x4=20)**

a) ಬಸವಣ್ಣ

b) ಅಕ್ಕಮಹಾದೇವಿ

c) ಲಕ್ಷ್ಮೀಶ

d) ಅನ್ನಯಜ್ಞ

e) ಅಮ್ಮನಿಂದ ಮಗಳಿಗೆ ಪತ್ರ-ಮಾದರಿ

f) ಸರ್ಕಾರಿ ಪತ್ರದ ಮಾದರಿ

ಪ್ರ-3 ಬೇಕಾದ ಮೂರಕ್ಕೆ ಸಂದರ್ಭದೊಡನೆ ಸ್ಪಷ್ಟೀಕರಿಸಿರಿ **(5X3=15)**

a) "ಆಸೆಯೆಂಬುದು ಅರಸಂಗಲ್ಲದ ಶಿವಭಕ್ತರಿಗುಂಟೆ ಅಯ್ಯಾ?"

b) "ಬೇಡಿ, ಯಾರನ್ನೂ ಹೊಡೀಬೇಡಿ"

c) "ಅನ್ನದಾನ ಮಹಾಯಜ್ಞ! ಅನ್ನ ಹೀನ ಆಳನು"

d) "ನಿಮ್ಮ ಹುಡುಗ ಶುದ್ಧ ಲೇಖನ ಬರೆದಿದ್ದಾನೆ"

e) "ಮಾಣಕ್ಯಾ ಎಲ್ಲಾದನ ಹೇಳು?"

ಪ್ರ-3. ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿ **(15X1=15)**

1) ಡಾ. ಕೆ.ವಿ. ನಾರಾಯಣರ ಜನ್ಮಸ್ಥಳ ಯಾವುದು?

2) ಬಸವಣ್ಣನವರ ತಂದೆ-ತಾಯಿ ಹೆಸರೇನು?

3) ಆಯ್ದಕ್ಕಿ ಲಕ್ಕಮ್ಮಳ ವಚನಾಂಕಿತ ಯಾವುದು?

4) 'ಬೇಲೂರಿನ ಶಿಲಾಬಾಲಿಕೆಯರು' ಕವಿತೆಯನ್ನು ಬರೆದವರು ಯಾರು?

5) ನಾಗೇಶ ಹೆಗಡೆ ಅವರ ಹುಟ್ಟೂರು ಯಾವುದು?

6) ನಾವಿರುವ ಬ್ರಹ್ಮಾಂಡವನ್ನು ಏನೆಂದು ಕರೆಯುತ್ತಾರೆ?

7) ಸುಭಾಷ್ ಪಾಳೇಕರ್ ಎಲ್ಲಿ ಜನಿಸಿದರು?

8) 'ಕಲ್ಲು ಕರಗುವ ಸಮಯ' ಕಥಾಸಂಕಲನದ ಲೇಖಕರು ಯಾರು?

9) ಬೇಂದ್ರೆಯವರ ಕಾವ್ಯನಾಮ ಯಾವುದು?

10) ಲಕ್ಷ್ಮಣ ಗಾಯಕವಾಡರ ಆತ್ಮಕತೆ ಯಾವುದು?

11) 'ರಕ್ತ ರಾತ್ರಿ ವಿಮರ್ಶೆ' ಬರೆದವರು ಯಾರು?

12) ರಕ್ತ ರಾತ್ರಿ ನಾಟಕ ಬರೆದವರು ಯಾರು?

13) ಡಾ. ವಸಂತ ಕುಲಕರ್ಣಿಯವರ ಜನ್ಮ ಸ್ಥಳ ಯಾವುದು?

14) 'ಡೆಮಿಆಫಿಷಿಯಲ್ ಲೆಟರ್' ಎಂದು ಯಾವ ಪತ್ರವನ್ನುಕರೆಯುತ್ತಾರೆ?

15) ಡಿ.ವಿ.ಜಿ ಯವರ ಪೂರ್ಣ ಹೆಸರೇನು?

QP CODE: 47032

Reg. No. | | | | | | | | |

First Semester B.Sc.6 (NEP) Degree Examination,
January / February 2025
PHYSICS (DSC)
(Repeaters)
A0320 / A030320 : Mechanics and Properties of Matter

Time: 2 Hours Max. Marks : 60

Instructions:

1. Calculators can be used to calculate problems.
2. Write intermediate steps during problems.

1. Answer any SIX of the following questions: (6 × 2 = 12)

a) What is elastic collision ?

b) Define angular momentum.

c) State Newton's law of Gravitation.

d) Define orbital velocity.

e) What is Neutral axis?

f) Define stress

g) Define Angle of contact.

h) Mention the difference between stream line and turbulent flow.

2. Answer any ONE full question "a and b" OR "c and d"

a) Discuss inelastic collisions between two particles which stick together in
i) Laboratory frame of reference
ii) Centre of mass frame of reference. (8)

b) A sand bag of mass 10 kg is suspended with long weightless string. A bullet of mass 0.2 kg is fired with a speed of 20 ms^{-1} in to the bag and stays in the bag. Calculate speed acquire by the bag. (4)

OR

c) What is Rocket and Derive an expression for the final velocity of single stage Rocket. (8)

d) A mass of 5 kg at rest explodes in to 2 pieces of 2 kg and 3 kg. If 2 kg piece is moving with velocity of 10 ms^{-1}, calculate the velocity of 3 kg piece. (4)

3. **Answer any ONE full question "a and b" OR "c and d" :**

a) State Kepler's II law of planetary motion on the basis of law of conservation of Angular momentum prove Kepler's II law. (8)

b) A satellite is orbiting around the earth at a height of 200 km radius and mass of earth are 6400 km and 6×10^{24} kg respectively. Calculate orbital velocity and period of satellite having mass 400 kg (Given $G = 6.67 \times 10^{-11} Nm^2 / kg^2$.) (4)

OR

c) Derive an expression for moment of inertia of rectangular lamina about an axis through its centre and parallel to one side. (8)

d) A circular disc of mass 0.5 kg and radius 0.1m is revolving at the rate of 60 rpm about an axis passing through its centre and it is perpendicular to its plane. Calculate its moment of inertia and kinetic energy. (4)

4. **Answer any ONE full question "a and b" OR "c and d" :**

a) Derive an expression for bending moment of a beam. (8)

b) Calculate Young's modulus of the material if the rigidity modulus is 4.2×10^{10} Nm^{-2} and bulk modulus is $1.4 \times 10^{10} Nm^{-2}$ (4)

OR

c) Obtain the expression for couple per unit twist of the wire fixed at one end and twisted by a couple at free end. (8)

d) A bar of geometrical moment of inertia 2×10^{-3} kg m^2 is bent into an arc of radius 2m. Calculate bending moment of the bar. The value of Young's Modulus of elasticity of material of the bar is $12 \times 10^{10} Nm^{-2}$ (4)

5. **Answer any ONE full question "a and b" OR "c and d" :**

a) Derive an expression for rise of liquid in capillary tube. (8)

b) Find the excess of pressure inside a spherical drop of water of radius 1 mm. Surface tension of water $= 73 \times 10^{-3}$ N/m (4)

OR

c) Derive Stoke's formula and terminal velocity of lead ball falling down through viscous liquid. (8)

d) Calculate viscosity of given liquid when a steel ball of radius 5×10^{-4} m falls through it with terminal velocity 30 ms^{-1} $\rho = 7.8 \times 10^3$ kg m^{-3}, $\sigma = 0.87 \times 10^3$ kg m^{-3}. (4)

* * *

Q. P. Code:2A1CHEM01T

Reg No | | | | | | | | | | |

B.Sc. I Semester (SEP Regular) Examination, Feb/March -2025
Subject: Chemistry

Duration of Paper: 3 Hrs. **Maximum Marks :80**

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

Q.No1. Answer any Ten questions . **10x2=20**

a) Write de Broglie relation and its significance.

b) State Aufbau principle .

c) Write the outer electronic configuration of chromium (Z=24) and copper (Z=29).

d) What are nucleophiles ? give example.

e) What is free radical ? mention how it is formed.

f) What happens when acetylene is subjected to polymerization .

g) Define RMS velocity. Give its equation .

h) Define mean free path.

i) Mention two factors affecting the distribution constant .

j) What are indeterminate errors .

k) What are titrant and titrand?

l) What are redox titrations ? give example .

Q.No2. Answer any Three questions . **(3x5=15)**

a Explain the hydrogen atomic spectrum with a diagram .

b. Explain the significance of quantum numbers.

c. What is orbital? Write the shape and directional nature of 's'and ' p' orbitals.

d. Explain the following of filling electrons in orbitals

i)Hund's rule of multiplicity.

ii) (n+1) rule.

Q.No3. Answer any Three questions. **(3x5=15)**

a. Write the preparation of alkenes by

i) Dehydration of alcohols

ii) Dehydrohalogenation of alkyl halides.

b. Explain the following with example.

i) Saytzeff's elimination reaction

ii) Hydroboration of alkenes

c. What is peroxide effect? Discuss its mechanism with the addition of HBr to propene.

d. What is ozonolysis? Explain the ozonolysis of 2-butene.

Q.No 4. Answer any Three questions. **3x5=15**

a. Explain the critical phenomenon by Andrew's isotherms of CO_2.

b. Derive the expressions for critical constants in terms of Vander waal's constants.

c. Derive the modified distribution law when solute undergoes association in one of the solvents.

d. Show how the multi-step solvent extraction is more efficient than single step extraction.

Q.No 5 Answer any Three questions. **3x5=15**

a. What are errors? Write about determinate errors.

b. What is titration curve? Give the titration curves for all the four types of acid-base titrations.

c. What are metal ion indicators? Explain the theory of metal ion indicators with respect to the Erichrome Black-T used in EDTA titrations.

d. Write about the following.

i) Redox indicators and Redox titration curves.

ii) Precipitation titrations.

Q. P. Code:126BSC01PHYDSC91T

Reg No | | | | | | | | | | |

B.Sc. I Semester (NEP-Repeater) Examination, Feb/March -2025

Subject: PHYSICS

Mechanics and Properties of Matter

Duration of Paper: 2 Hrs. **Maximum Marks :60**

Instruction to the Candidate:

1) Calculators are allowed to solve the problems.
2) Write intermediate steps.

1) Answer any SIX questions of the following **6x2=12M**

a. State law of conservation of linear momentum.

b. State law of conservation of energy.

c. What is escape velocity?

d. State parallel axis theorem.

e. State Hooke's law.

f. What is torsional pendulum?

g. Define surface tension.

h. What is turbulent flow?

2) Answer any ONE full question "a and b" OR "c and d".

a. Derive expression for final velocity in case of elastic collision in 1-D center frame of reference. 8M

b. Distinguish between elastic and inelastic collision with examples. 4M

OR

c. State the principle of rocket. Obtain expression for velocity of a single stage rocket. 8M

d. A rocket of mass 50×10^3 Kg is launched vertically up. It is fired upward after burning some part of fuel, weighs 15×10^3Kg. The emitted gases have velocity of 3 km/s with respect to the rocket. Calculate the speed of rocket assuming the rocket starts from rest. 4M

3) Answer any ONE full question "a and b" OR "c and d".

a. State and prove Kepler's third law of planetary motion. 8M

b. What is weightlessness? Explain. 4M

OR

c. Derive expression for moment of inertia of a rectangular lamina about an 8M

(i) axis in the plane of the lamina passing through its center and parallel to its length

(ii) axis perpendicular to the plane of the lamina passing through its center.

d. A uniform square lamina having a radius of gyration 8.5×10^{-2}m and length of equivalent compound pendulum is 15×10^{-2}m. Hence find the period of oscillation. 4M

4) **Answer any ONE full question "a and b" OR "c and d".**

a. Drive the relation between three moduli of elasticity Y,K and η. 8M

b. Derive expression for work done per unit volume during volume strain . 4M

OR

c. Derive the expression for young's modulus of beam supported at its ends & loaded at the middle. 8M

d. The young's modulus of copper is 100 GPa and Poisson's ratio is 0.45.Calculate modulus of rigidity . 4M

5) **Answer any ONE full question "a and b" OR "c and d".**

a. Derive an expression for rise of liquid in a capillary tube. 8M

b. Calculate the excess of pressure between the inside and outside of a soap bubble of radius 2cm. Surface tension of soap solution is $4x10^{-2}$ N/m. 4M

OR

c. Discuss Poiseuille's method for determining the coefficient of viscosity of liquid. 8M

d. Explain the effects of temperature on viscosity. 4M

Q. P. Code: 2A1PHYM01T

Reg No | | | | | | | | | | |

B.Sc. I Semester (SEP Regular) Examination, Feb/March -2025
Subject: PHYSICS
Mechanics and Properties of Matter

Duration of Paper: 3 Hrs. **Maximum Marks :80**

Instruction to the Candidate:
1) Calculate is allowed to solve the problems.
2) Write intermediate steps.

1) Answer any Ten of the following 10x2=20M

a) State the law of conservation of linear momentum

b) Mention the difference between elastic and inelastic collision.

c) State work-energy theorem.

d) State the universal law of gravitation.

e) State Kepler's first law of planetary motion.

f) What is moment of inertia? and on what factor does it depends?

g) Define stress and strain.

h) What is neutral axis?

i) What is bending moment?

j) Define surface tension and write its dimensional formula.

k) What are the effects of temperature and impurities on surface tension?

l) Define viscosity?

2) Answer any ONE full question "a and b" OR " c and d "

a) Derive the final velocity in case of elastic collision in laboratory frame of reference 10M

b) A shell of mass 32 kg explodes into two parts one part of mass 25 kg moves in original direction with velocity 25 m/s, what is the velocity of the other particle? 5M

OR

c) What is satellite? Derive the expression for velocity of rocket in single stage? 10M

d) A rocket starts from rest with exhaust velocity of gas equals to 204 km/sec. Calculate the velocity attained by rocket, when its mass is reduced to 1/20th of original value? 5M

3) Answer any ONE full question "a and b" OR " c and d "

a) State and explain law of gravitation and derive expression for orbital velocity 10M

b) Calculate moments of inertia of lamina of mass 3kg whose length and breadth are 2m and 1m respectively (i) about an axis passing through its center and parallel to one side. (ii) about axis passing through its center and perpendicular to its plane. 5M

OR

c) Give that theory of compound pendulum and show that period of oscillation about point of suspension and point of oscillation are same. 10M

d) The period of earth is 24 Hrs, calculate period of planet whose radial distance is 16 times that of the earth from sun. 5M

4) Answer any ONE full question "a and b" OR " c and d "

a) Derive the relation between Y, K and η 10M

b) Calculate Young's modulus of wire, if modulus of rigidity and bulk modulus are 4.2×10^{10} N/m^2 and 1.4×10^{10} N/m^2. 5M

OR

c) Derive the expression for Young's modulus in case of bending of beam supported at its ends and loaded at middle. 10M

d) A uniform metal disc of wire of diameter 0.1m and mass 1.4kg is fixed symmetrical to lower end of wire (l=1m & D=1.44mm). The upper end is fixed, calculate 'η' of wire if period is 1.66sec. 5M

5) Answer any ONE full question "a and b" OR " c and d "

a) Derive the expression for capillary rise of liquid in a capillary tube. 10M

b) Calculate excess pressure inside spherical drop of water of diameter 4mm. Given surface tension of water is 72×10^{-3} N/m. 5M

OR

c) Drive an expression of Stoke's formula for viscosity. 10M

d) Mention the difference between turbulent and streamline flow. 5M

Q. P. Code:126BSC01LANAEC03T/ 126BCA01LANAEC03T

Reg No | | | | | | | | | | | |

B.Sc/BCA. I Semester (NEP Repeater) Examination, Feb/March -2025
Subject: Generic English -1

Duration of Paper: 2 Hrs. **Maximum Marks :60**

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

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

1. What is the main cause of soil erosion ?
2. What does the author compare water in a landscape to ?
3. What is the long form of BBC ?
4. How far is the station from Baldeo's tribal village ?
5. Who takes over the charge of watchman after the death of Baldeo ?
6. Who translated 'Vachana 820' ?
7. How was the speaker's country like in past glory in 'To India My Native Land' ?
8. What is the form of the poem 'To India My Native Land' ?
9. What do the roads signify in the poem 'The Road not Taken' ?
10. How many roads diverged in a yellow wood ? **(1x10=10)**

II.

1. 'Life can not exist on earth without water'. Explain.

OR

2. Sketch the character of Baldeo. **(1x10=10)**

III.

1. What role does the poet see for himself with regard to his country in 'To India My Native Land' ?

OR

2. Comment on the central theme of the poem 'The Road not Taken ?

IV. Answer any Two of the following: **(2x5=10)**

1. Introduce yourself before a panel of interview members as an eligible candidate for the post o a manager.
2. Write at least five most common ways for making requests.
3. Write instructions on the task of 'preparing lemon juice' in a paragraph by using the words such as firstly, after this, next, then, the next step is, subsequently, in the following stage, etc.
4. Write an enquiry dialogue between you and manager for opening saving bank account i State Bank of India.

V. Answer any Four of the following sets:

A. Use the following words as directed: **(5x1=5)**

1. 'Slow' as an adverb in a sentence.
2. 'Manage' as a noun in a sentence
3. 'Nobility' as an adjective in a sentence
4. 'Sing' as a noun in a sentence
5. 'Gentle' as an adverb in sentence

B. Fill in the blanks with suitable articles: **(5x1=5)**

1. _____ Sun sets in the west.
2. I had _____ apple for breakfast.
3. My father is _____ doctor.
4. I have _____ umbrella.
5. I have completed _____ MBA degree.

C) Fill in the blanks with suitable prepositions: **(5x1=5)**

1. He studied _____ Oxford
2. He lives _____ Bombay.
3. It is a secret _____ you and me.
4. Ravana was killed _____ Rama.
5. We will be meeting _____ Friday.

D) Convert the following direct question into indirect questions: **(5x1=5)**

1. Where does he play Tennis?
2. When does the next train leave?
3. Does that store sell shampoo?
4. Will she be able to come next week ?
5. What are you doing ?

E) Frame the negative questions: **(5x1=5)**

1. You saw Ann yesterday.
2. It would be nice to paint that wall green.
3. The postman has come.
4. They are ready for class.
5. He is sure of his success.

F) Frame the questions as directed: **(5x1=5)**

1. George broke the glass. (Frame WH question to get underlined word as answer)
2. Rama told me that story. (Frame WH question to get underlined word as answer)
3. They will be arriving soon,_____ (add a question tag)
4. Yes, you are sympathetic. (Frame yes/no question)
5. No, he wasn't nervous (Frame yes/no question)

Q. P. Code: 2A1ENGL01T

Reg No | | | | | | | | | | |

B.Sc I Semester (SEP Regular) Examination, Feb/March -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.No. 1. Answer any TEN of the following in a sentence or two: **10x2=20**

1. How according to the author, is the second kind of book owner in the essay 'How to Mark a Book'?
2. What was Behrman's master piece?
3. What does Self- Reliance primarily advocate?
4. Who wrote the poem 'Song of Youth'?
5. What type of tree does the speaker find in the bower in the poem 'Nutting'?
6. What according to Dr. APJ Abdul Kalam is considered a crime?
7. What is 'verb'?
8. What is 'antonym'?
9. What is 'article' in grammar?
10. How do you start an informal self- introduction?
11. What is 'dialogue'?
12. Mention any two road safety rules for cyclists?

Q.No.2.1. Answer any One of the following : **1x10=10**

a. How does the author argue that marking up a book enhances comprehension and retention?

b. 'Behrman sacrificed his life for someone, he did not know. It was a supreme sacrifice, a selfless service.' Discuss.

2.2 Write a short on any One of the following: **1x5=5**

a. Emerson's philosophy in 'Self – Reliance'

b. The significance of water

Q.No.3.1. Answer any One of the following : **1x10=10**

a. Discuss the central theme of the poem, 'Song of Youth'

b. 'The Road not Taken' is a metaphor of life.' Justify this statement.

3.2 Write a short note on any One of the following: **1x5=5**

a. The description of nature in the poem 'Nutting.'

b. The theme of scientific curiosity and wonder in the poem 'A Universe of Atoms, an Atom in Universe'.

Q.No.4.1 **Fill in the blanks with suitable nouns, adjectives, verbs and adverb given in the bracket:** **5x1=5**

(sofa, busy, gained, apples, clearly)

1. New York is a ---------- city.
2. The teacher explains difficult concepts ----------.
3. The child's toy is under the ----------.
4. She ---------- a lot of knowledge from reading .
5. He ate two ---------- for lunch.

4.2 **Fill in the blanks with suitable articles / prepositions:** **5x1=5**

1. -------- sun rises in the east.
2. I received a letter ---------- my sister.
3. Iron is -------- useful metal.
4. ---------- thing of beauty is joy forever .
5. I am fond ---------- writing letters.

4.3 **Write the synonyms, antonyms, affixes and concord of the following:** **5x1=5**

1. Angry (synonym)
2. Buy (antonym)
3. Correct (affix)
4. Cold (antonym)
5. He ---------- (go) to Delhi yesterday.

Q.No. 5. **Answer any Three of the following :** **3x5=15**

1. Imagine that you are the secretary of college union. You have invited the district commissioner as the chief guest for the college Annual Day. Write a speech to introduce his/ her at the function.
2. Write an imaginary dialogue between a student and a clerk on getting admission for B.Sc-I.
3. Write a description of your dream job.
4. Explain the road safety rules for drivers.

10961/20901/A9010

Reg. No. | | | | | | | | | |

I Semester All UG Courses Degree Examination, March/April - 2024

COMPUTER SCIENCE

Digital Fluency (SEC)

(Repeater)

Time : 1 ½ Hours **Maximum Marks : 25**

Instructions to Candidates :

1. ***Answer All the questions.***

SECTION-A

Answer all **FIVE** questions. Select the most appropriate answer from the following. **(5×1=5)**

1. AI Stands for
   a) Artificial intelligence
   b) Artificial Interest
   c) Actual intelligence
   d) None of the above
2. Which of the following is not a machine learning method.
   a) Supervised Learning.
   b) Unsupervised Learning
   c) Linear Regression
   d) Newton's approach.
3. Which of the following is the type of cyber attack.
   a) Phishing b) Fishing c) Watering d) Bugging
4. Which is not a cloud service model.
   a) Saas b) Paas c) Maas d) Iaas
5. Which of the following is the most important language for data science.
   a) Java b) C c) C++ d) R Programming

SECTION - B

Answer any **FIVE** questions. Each question carries **2** marks. **(5×2=10)**

6. Define ML. Give an example.
7. Mention any two AI applications.
8. What is Bigdata?

[P.T.O.

9. Mention the components of IOT model.
10. Name any two applications of cloud.
11. List any two computer virus.

SECTION - C

Answer any **TWO** questions. Each question carries **5** marks. **(2×5=10)**

12. **Fill in the blanks.**
    a) AI is a mimic of _____
    b) _____ is a collection of related data.
    c) Full form of IOT is _____
    d) Trojan is _____
    e) Name any one method to avoid cyber attack.
13. Mention **True or False.**
    a) Alexa is example of AI _____ [True/False]
    b) Hackers are always looking for opportunities to invade privacy and steal the data _____ [True/False]
    c) CNN is a type of Neural Network _____ [True/False]
    d) Cloud is a virtual space _____ [True/False]
    e) IOT means Interest of Training _____ [True/False]
14. **Match the following.**

a)	AI	i)	Part of machine Learning
b)	Deep Learning	ii)	Hadoop
c)	Big Data	iii)	Stealing data
d)	Saas	iv)	Mimic of human brain
e)	Hacking	v)	Cloud service

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Booklet Serial No.

Reg. No. | | | | | | | | |

I Semester (NEP) B.Sc./B.Com./B.C.A. Degree Examination, March/April - 2024

COMPUTER SCIENCE

Digital Fluency (SEC)

(Regular/Repeater)

Time : 1 Hour **Max. Marks : 25**

Instructions to Candidates:

1. ***Answer All questions.***
2. ***All questions are MCQ.***
3. ***Each question carries one mark.***

1. RAM Stands for_____

   a) Random Access Memory

   b) Random Auxiliary Memory

   c) Random Arial Memory

   d) Random Array Memory

2. One byte consists of _____No. of bits.

   a) 4 b) 6

   c) 8 d) 1

3. Which is the main electronic component used in first Generation Computers?

   a) Transister b) Vaccum tube

   c) Integrated Circuit d) Microprocessor

[P.T.O.

4. Who invented integrated circuit (IC)?

a) Mark Zuckerberg
b) Bill Gates
c) Jack Kilby
d) Steve Jobs

5. Which of the following is not an example for an operating system?

a) Windows-10
b) Linux
c) Android
d) M.S. office

6. Artificial Intelligence is used in

a) Health care
b) Manufacturing
c) Entertainment
d) All of the above

7. Saas stands for

a) Service as a service
b) Serves as a service
c) Software as a service
d) Source as a service

8. Shortcut key to "Paste the copied content" in Ms - Word.

a) CTRL+Z
b) CTRL+V
c) CTRL+C
d) CTRL+P

9. Which one of the following is one of the world's largest Hadoop Cluster.

a) Apple
b) Datamatics
c) Facebook
d) None of the above

10. Expansion of IIOT

a) Industrial Internet of Things
b) Information Internet of Things
c) Interpreter Internet of Things
d) None of the above

11. In Google sheets, Columns are represented by_____

a) Numbers b) Letters

c) Letters and Numbers d) Cells

12. Bullets and numbering is in _____tab

a) Insert tab b) View tab

c) Page Layout tab d) Home tab

13. What is the smallest and largest font size available in font size tool on formatting toolbar?

a) 8 and 64 b) 8 and 72

c) 12 and 72 d) None of the above

14. How are data organized in a spreadsheet?

a) Lines and Spaces b) Layers and planes

c) Rows and columns d) Height and width

15. _____tool rotates a text or image to a desired angle.

a) Roll tool b) Rotate tool

c) Text tool d) Crop tool

16. Google forms created are saved in

a) Cloud b) Google drive

c) Computer d) All of the above

17. Maximum number of participants allowed in google meet at no cost.

a) 50 participants b) 10 participants

c) 100 participants d) None of the above

18. Virtual meeting is not possible in one of the following application.

a) Google meet b) Whatsapp

c) Youtube d) All of the above

19. Google drive is a free -web based application used to

a) Create documents b) Store files

c) Share files d) All of the above

20. SWAYAM, e-Learning application provides which of the following experience to the user

a) Video lecture b) Reading materials

c) Tests and quizes d) All of the above

21. Which of the following is not a feature of E-commerce.

a) Non-cash payment b) 24×7 service availability

c) Off-line service d) Advertising and marketing

22. Which of the following is a E-commerce website?

a) Google b) Flipkart

c) Yahoo d) Apple

23. The first computer view is_____

a) Sasser b) Creeper

c) Bluster d) None

24. Cyber Security is the protection of _____

a) Inter-connected systems
b) Hardware, Software and data
c) Both a and b
d) None

25. Which of the following is not a Anti-virus Software

a) AVG
b) Avast
c) McAfee
d) Code Red

19016/A5160

Reg. No. | | | | | | | | | |

I Semester All U. G. Courses (NEP) Degree Examination, March/April - 2024

COMPUTER SCIENCE

C-Programming Concepts

(Open Elective Course)

(Regular/Repeater)

Time : 2 Hours **Maximum Marks : 60**

***Instructions to Candidates*:**

1. **Answer all questions.**
2. **Write syntax wherever necessary.**
3. **Draw a neat diagram wherever necessary.**

Answer any SIX questions. Each question carries 2 marks. **(6×2=12)**

1. a) What is keyword?

   b) Define constant. Give an example.

   c) Write the syntax of scan f() function.

   d) List different escape sequences.

   e) What is entry controlled loop?

   f) What is an array?

   g) Write the syntax for user defined function.

   h) List the categories of user defined functions.

Answer any THREE questions. Each question carries 4 marks. **(3×4=12)**

2. a) Write a note on history of C programming.

   b) How variables are declared and initialized? Explain.

   c) Explain any 4 tokens of C programming.

   d) Explain C programming data types.

[P.T.O.

Answer any THREE questions. Each question carries 4 marks. (3×4=12)

3. a) Explain unformatted input/output functions.

   b) Explain arithmetic, logical, conditional and relational operators.

   c) Write a note on operator precedence.

   d) With syntax explain nested if-else and else -if ladder statements.

Answer any THREE questions. Each question carries 4 marks. (3×4=12)

4. a) Differentiate between entry controlled loop and exit controlled loop.

   b) Explain following string handling functions.

      i) Strlen

      ii) strcmp

      iii) strcat

      iv) strcpy

   c) Write a note on one dimensional arrays.

   d) Explain while and for loop with a syntax.

Answer any THREE questions. Each question carries 4 marks. (3×4=12)

5. a) Explain function without arguments but with return value.

   b) With an example explain how user defined functions are declared and called.

   c) Explain the advantages of using functions.

   d) Explain different components of a function.

19031

Reg. No.

I Semester ALL UG Courses Degree Examination, March/April - 2023
SPORTS AND RECREATION (OEC)
(Repeater/Regular)

Time : 2 Hours **Maximum Marks : 40**

Part-A
ಭಾಗ - ಅ

I. Answer any ten in two-three sentence each. **(10×2=20)**

ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಬೇಕಾದ **ಹತ್ತಕ್ಕೆ** ಎರಡು - ಮೂರು ವಾಕ್ಯಗಳಲ್ಲಿ ಉತ್ತರಿಸಿರಿ.

1. What is Physical Fitness?
   ದೈಹಿಕ ಸದೃಢತೆ ಎಂದರೇನು ?
2. Write the definition of Recreation.
   ಮನೋಲ್ಲಾಸದ ವ್ಯಾಖ್ಯೆ ಬರೆಯಿರಿ.
3. Define Leisure time.
   ವಿರಾಮ ಸಮಯವನ್ನು ಅರ್ಥೈಸಿರಿ.
4. Write the definition of Physical Fitness.
   ದೈಹಿಕ ಸದೃಢತೆಯ ವ್ಯಾಖ್ಯೆ ಬರೆಯಿರಿ.
5. Write any two objectives of Recreation.
   ಮನೋಲ್ಲಾಸದ ಯಾವುದಾದರೂ ಎರಡು ಉದ್ದೇಶಗಳನ್ನು ಬರೆಯಿರಿ.
6. Write any two Indoor Recreational games.
   ಯಾವುದಾದರೂ ಎರಡು ಒಳಾಂಗಣ ಮನೋಲ್ಲಾಸ ಆಟಗಳನ್ನು ಬರೆಯಿರಿ.
7. Write any two outdoor Recreational games.
   ಯಾವುದಾದರೂ ಎರಡು ಹೊರಾಂಗಣ ಮನೋಲ್ಲಾಸದ ಆಟಗಳನ್ನು ಬರೆಯಿರಿ.
8. Write the types of Traditional folk games.
   ಸಾಂಪ್ರದಾಯಿಕ ಆಟಗಳ ವಿಧಗಳನ್ನು ಬರೆಯಿರಿ.

[P.T.O.

9. What is proper use of Leisure time?
ವಿರಾಮ ಸಮಯದ ಸದ್ಬಳಕೆ ಎಂದರೇನು ?

10. Expand F.I.F.A.
F.I.F.A. ವಿಸ್ತರಿಸಿರಿ.

11. Expand NIS.
NIS ವಿಸ್ತರಿಸಿರಿ.

12. Expand B.P.Ed.
B.P.Ed. ವಿಸ್ತರಿಸಿರಿ.

Part-B
ಭಾಗ – ಬ

II. Answer any four of the following. **(4×5=20)**
ಕೆಳಗಿನ ಬೇಕಾದ **ನಾಲ್ಕಕ್ಕೆ** ಉತ್ತರಿಸಿರಿ.

1. What are the features of Recreational games?
ಮನೋಲ್ಲಾಸ ಆಟಗಳ ಗುಣಲಕ್ಷಣಗಳಾವವು ?

2. Write the objectives of Recreational games.
ಮನೋಲ್ಲಾಸದ ಉದ್ದೇಶಗಳನ್ನು ಬರೆಯಿರಿ.

3. Write the importance of Recreation.
ಮನೋಲ್ಲಾಸದ ಮಹತ್ವ ಬರೆಯಿರಿ.

4. Explain two types of Recreation.
ಮನೋಲ್ಲಾಸದ ವಿಧಗಳನ್ನು ವಿವರಿಸಿರಿ.

5. Write the use of leisure time activities & their educational values.
ವಿರಾಮ ಸಮಯದಲ್ಲಿನ ಚಟುವಟಿಕೆಗಳ ಉಪಯೋಗವೇನು ಮತ್ತು ಅದರ ಶೈಕ್ಷಣಿಕ ಮೌಲ್ಯ ಬರೆಯಿರಿ.

6. Write a note on Recreation through sports and games.
ಮನೋಲ್ಲಾಸದ ಮೂಲಕ ಕ್ರೀಡೆ ಮತ್ತು ಆಟಗಳ ಬಗ್ಗೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

19002/A5020

Reg. No. | | | | | | | | |

I Semester B.A./B.Sc. (NEP) Degree Examination, March/April - 2024

ENGLISH (OEC)

Functional English, Grammar and Study Skills

(Regular)

Time : 2 Hours **Maximum Marks : 60**

I. Answer the following questions in a word a phrase or a sentence each. (10×2=20)

1. What is sentences?
2. Sentence has two parts, give an example.
3. What are helping verbs?
4. What does sentences pattern mean?
5. What is Skimming and Scanning?
6. What is Clauses? Give an example?
7. What is morpheme?
8. What is intensive reading?
9. Give an example of SVOC pattern.
10. Which grammar is flexible in its word order. Written or spoken?

II. Write a brief note on any FOUR of the following. (4×5=20)

1. Spoken English and Written English grammar.
2. Define an E mail to your friend informing him about success in the IAS Exam.
3. Four basic sentence patterns.
4. Functions of clauses.
5. Writing skills

[P.T.O.

III. Read the following text and complete it using words given in the brackets.(10×1=10)

Two men were walking along one summer _____.Soon it became too hot to go any further and seeing a large _____ tree nearby, They threw themselves on the _____ to rest in its_____ gazing up into the _____ .one man said to the other, "what a useless _____ this is. It does not have fruit or _____ that we can eat and we can not even use its _____ for anything" "dont be so ungrateful" Replied the tree in _____.

"I am being extremely useful to you at this very moment shielding you from the ___sun."

"hot, reply, wood, nuts, Tree, Branches, shade, ground, plane, day.

IV. A. Draft a dialoge copy between Bank manager and Ashok to open saving account in the bank. **(5)**

B. Expand the idea inherent in the following provebs. **(1×5=5)**

a) No work No money

(OR)

b) Do or Die.

47223/E0230

Reg. No. | | | | | | | | |

V Semester B.Sc. (NEP) Degree Examination, March/April - 2024

BOTANY

Plant Morphology and Taxonomy.

(Regular)

Paper - I

Time : 2 Hours **Maximum Marks : 60**

Instructions to Candidates :

Draw the neat and labelled diagrams wherever necessary.

I. Answer any **SIX** of the following: **(6×2=12)**

1) Prop root.
2) Rhizome.
3) Monadelphous.
4) Pollinia.
5) Holotype.
6) Polynomials.
7) Phenograms.
8) Biometry.

II. Answer any **THREE** of the following: **(3×4=12)**

9) Explain Aerial root modification.
10) Explain any two special types of Inflorescence with diagram.
11) Describe underground stem modification.
12) Write the merits and demerits of Engler and Prantl's system of classification.

III. Answer any **THREE** of the following: **(3×4=12)**

13) Give the salient features of the family Malvaceae.
14) Mention the Palynological evidence in plant taxonomy.
15) Write the salient features of the family Rubiaceae.
16) Write the salient features of the family Solanaceae.

[P.T.O.

IV. Answer any **THREE** of the following: **(3×4=12)**

17) Write a note on Taxonomic Hierachy.

18) What is speciation? Mention Allopatric Speciation.

19) Explain the evolutionary species concept.

20) Mention the advantages of Phylogenetic Nomenclature.

V. Answer any **THREE** of the following: **(3×4=12)**

21) Write a note on

a) Phenetics and b) Cladistics

22) Mention the merits of Numerical taxonomy.

23) Explain about the O4T's.

24) Write a note on

a) Phenograms and b) Cladograms.

47224/E0240

Reg. No. | | | | | | | | |

V Semester B.Sc.(NEP) Degree Examination, March/April - 2024

BOTANY

Genetics and Plant Breeding

Paper : II

(Regular)

Time : 2 Hours **Maximum Marks : 60**

Instructions to Candidates :

Draw a neat labelled diagram wherever necessary

I. Answer any **SIX** of the following in 2 or 3 sentences each. **(6×2=12)**

1. Autosomes
2. Epistatic Gene
3. Aneuploid
4. Genotype Frequency
5. Cross-Pollination
6. Domestication of Crop
7. Mass Selection
8. Inbreeding Depression.

II. Answer any **THREE** of the following. **(3×4=12)**

9. Explain incomplete dominance with example.
10. Explain pleiotropy with example.
11. Explain Mendel's Law of Segregation.
12. Explain Variegation of leaves in 4^{o} Clock Plant.

III. Answer any **THREE** of the following. **(3×4=12)**

13. Explain variation in chromosome number.
14. What is gene mutation? Explain its type.
15. Explain crossing over.
16. Explain genetic drift and its types.

[P.T.O.

IV. Answer any **THREE** of the following: (3×4=12)

17. Explain Pure line selection.
18. What are the achievements and undesirable consequences of Plant Breeding?
19. What are plant genetic resources?
20. Explain briefly Acclimatization.

V. Answer any **THREE** of the following: (3×4=12)

21. Explain the procedure of hybridisation.
22. What is the role of biotechnology in the crop improvement?
23. Explain genetic basis of heterosis.
24. Explain the importance of Polyploidy in Plant Breeding.

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Reg. No. | | | | | | | | |

I Semester B.Sc. (SEP) Degree Examination, December/January - 2024-25

PHYSICS

Mechanics and Properties of Matter (Optional)

(Regular)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. Calculators can be used to calculate problems.
2. Write intermediate steps during problem solving.

Answer **any Ten** questions of the following. **(10×2=20)**

1 a. What is Torque?

b. State the law of conservation of Angular Momentum.

c. A body of mass 0.1 kg has velocity of $5ms^{-1}$, calculate its momentum and kinetic energy.

d. Define orbital velocity.

e. What is geostationary satellite?

f. Calculate moment of Inertia of flywheel of Mass 72 kg and Radius 0.5m.

g. State Hooke's Law.

h. Define Modulus of elasticity.

i. What is Cantilever?

j. Define Surface Tension. Name its SI Unit.

k. What is Streamline flow?

l. Write the SI Unit of coefficient of viscosity.

Answer the questions No. 2 or 3.

2. a) Two particle of masses 0.3 kg and 0.2 kg are moving towards each other along horizontal surface with velocity of $0.5\ ms^{-1}$ and $1ms^{-1}$ respectively Find.

i) Final velocity when particles collide and stick together.

ii) The loss in kinetic energy during the collision. **(5)**

[P.T.O.

b) Discuss Elastic collision between two particles which do not stick together in
   i) Laboratory frame of reference.
   ii) Centre of Mass frame of reference. **(10)**

(OR)

3. a) A rocket starts from rest with exhaust velocity of gases equal to 1.2 kms^{-1} calculate the velocity attained by the rocket when its mass is reduced to $\frac{1}{20}^{th}$ of its initial mass. **(5)**

   b) What is Rocket? State the principle of rocket. Derive an expression for the final velocity of rocket. **(10)**

Answer the question No. 4 or 5.

4. a) A satellite is orbiting around earth at a height of 200 km radius and mass of earth are 6400 km and 6×10^{24} kg respectively. Calculate Orbital velocity and Time period of Satellite. **(5)**

   b) State and explain parallel and perpendicular axes theorem. **(10)**

(OR)

5. a) A thin uniform rod of length 1.5m is pivoted at its centre of gravity. Calculate its angular momentum, when it is rotating at a constant speed of 90 rpm, mass of the rod is 200 gm. **(5)**

   b) Derive an expression for moment of Inertia of rectangular Lamina.
      i) About an axis through its centre and parallel to one of its side.
      ii) About an axis passing through centre of gravity and perpendicular to plane of Lamina. **(10)**

Answer the question No. 6 or 7.

6. a) Find the workdone in stretching a wire of 1 sq mm cross section and 2m long through 0.1 mm. Young's Modulus $Y = 2\times10^{11}\ Nm^{-2}$. **(5)**

   b) Derive the relation between Young's Modulus, Bulk Modulus and Modulus of rigidity. **(10)**

(OR)

7. a) A disc of mass 1 kg and radius 10 cm is suspended horizontally by a vertical wire of length 60 cm and radius 0.5 mm. If the period of torsional oscillation is 4s. Calculate rigidity modulus of wire. **(5)**

   b) Obtain an expression for couple per unit twist of the wire fixed at one end and twisted by a couple at the free end. **(10)**

Answer the question No. 8 or 9.

8. a) Find the height to which water rises in capillary tube of radius 0.5mm. If surface tension is 70×10^{-3} N/m and angle of contact is 60°. **(5)**

   b) Derive an expression for the rise of liquid in capillary tube. **(10)**

(OR)

9. a) Calculate viscosity of given liquid. When steel ball of radius 5×10^{-4} m falls through it with terminal velocity 30 ms^{-1}.

   Given Density of steel ball is 7.8×10^{3} kg m^{-3} and density of liquid is 0.87×10^{3} kg m^{-3}. **(5)**

   b) Derive Poiseuille's formula for the flow of viscous fluid through a narrow tube. **(10)**

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Reg. No. | | | | | | | | |

I Semester All U. G. Courses (NEP) Degree Examination, March/April - 2024

COMPUTER SCIENCE

C-Programming Concepts

(Open Elective Course)

(Regular/Repeater)

Time : 2 Hours **Maximum Marks : 60**

***Instructions to Candidates*:**

1. **Answer all questions.**
2. **Write syntax wherever necessary.**
3. **Draw a neat diagram wherever necessary.**

Answer any SIX questions. Each question carries 2 marks. **(6×2=12)**

1. a) What is keyword?

b) Define constant. Give an example.

c) Write the syntax of scan f( ) function.

d) List different escape sequences.

e) What is entry controlled loop?

f) What is an array?

g) Write the syntax for user defined function.

h) List the categories of user defined functions.

Answer any THREE questions. Each question carries 4 marks. **(3×4=12)**

2. a) Write a note on history of C programming.

b) How variables are declared and initialized? Explain.

c) Explain any 4 tokens of C programming.

d) Explain C programming data types.

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Answer any THREE questions. Each question carries 4 marks. **(3×4=12)**

3. a) Explain unformatted input/output functions.

   b) Explain arithmetic, logical, conditional and relational operators.

   c) Write a note on operator precedence.

   d) With syntax explain nested if-else and else -if ladder statements.

Answer any THREE questions. Each question carries 4 marks. **(3×4=12)**

4. a) Differentiate between entry controlled loop and exit controlled loop.

   b) Explain following string handling functions.

      i) Strlen

      ii) strcmp

      iii) strcat

      iv) strcpy

   c) Write a note on one dimensional arrays.

   d) Explain while and for loop with a syntax.

Answer any THREE questions. Each question carries 4 marks. **(3×4=12)**

5. a) Explain function without arguments but with return value.

   b) With an example explain how user defined functions are declared and called.

   c) Explain the advantages of using functions.

   d) Explain different components of a function.

31204

525983 Reg. No.

I Semester B.Sc. (SEP) Degree Examination, December/January - 2024-25

BOTANY

Microbial Diversity

(Regular)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. Answer all questions.
2. Draw diagrams wherever necessary.

I. Answer **any TEN** of the following. **(10×2=20)**

1. Autotrophs.
2. Synthetic media.
3. Nitrifying bacteria.
4. Lysogenic cycle.
5. Spirillum.
6. Rhizobium.
7. Nutraceuticals.
8. Daughter colony.
9. Alternation of generation.
10. Cleistothecium.
11. Heterothallism.
12. Pyenidium.

II. Answer **any SIX** of the following. **(6×5=30)**

13. Write a note on R.H.Whittaker's five kingdom classification.
14. Comment on history and development of microbiology.
15. Explain Lytic cycle in viruses.
16. Explain the significance of Rhizobium and its applications.

|P.T.O.

17. Give an account of cultivation of Spirulina.
18. What are diatoms? Write the economic importance of diatoms.
19. Describe the methods of sexual reproduction in fungi.
20. Write about the life cycle of Agaricus with diagrams.

III. Answer **any THREE** of the following. **(3×10=30)**

21. Write about the significance of microbial diversity in nature.
22. Explain the contributions of any two microbiologists.
23. With a neat labelled diagram explain the structure of Bacterio phage.
24. Explain the life cycle of Volvox with neat labelled diagrams.
25. Write about the economic importance of fungi.

47023/A0230

Reg. No. | | | | | | | | |

I Semester B.Sc. (NEP) Degree Examination, March/April- 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 equations wherever necessary.**

1. Answer any **SIX** questions. **(6×2=12)**

a) What is precipitation titration? Give example.

b) What is standard solution? How it is prepared?

c) Write the electronic configuration of the elements chromium (z=24) and copper (z=29).

d) Name the series of lines observed in hydrogen spectrum.

e) What are nucleophiles? Give examples.

f) What is elimination reaction? Give example.

g) State the law of corresponding states.

h) Define collision frequency.

2. Answer any **THREE** questions **(3×4=12)**

a) What are errors? Write about indeterminate errors.

b) What is titration curve? Explain the titration curve of neutralization of strong base and weak acid.

c) Explain briefly the theory of redox indicators with reference to diphenylamine in the titration of Fe^{2+} against $K_2Cr_2O_7$.

d) Explain the determination of hardness of water using EDTA.

[P.T.O.

3. Answer any **THREE** questions. (3×4=12)

a) Explain Bohr's theory of atomic model.

b) Write about the following.

i) Heisenberg Uncertainty principle

ii) Hund's rule of maximum multiplicity.

c) Explain the following quantum numbers.

i) Principle quantum number

ii) Magnetic quantum number

d) What is screening effect? How is ionization enthalpy of S and P block elements vary down the group?

4. Answer any **THREE** questions. (3×4=12)

a) Explain resonance effect with example.

b) Explain the following with example.

i) Heterolytic bond fission

ii) Huckel's rule of aromaticity.

c) Discuss the mechanism of halogenation of alkane.

d) Write the following with example.

i) Wurtz reaction

ii) Wurtz-fitting reaction

5. Answer any **THREE** questions. (3×4=12)

a) Explain the Andrew's isotherms of carbon dioxide.

b) Write about the following

i) Maxwell's distribution law of molecular velocities

ii) Collision diameter.

c) Derive the modified distribution law when solute undergoes association in one of the solvent.

d) State and explain Nernst distribution law.

QP CODE: 47023

Reg. No. | | | | | | | | | |

First Semester B.Sc. (NEP) Degree Examination, January / February 2025
CHEMISTRY (DSC)
(Repeater)
A0230 : PAPER – I : CHEMISTRY (DSC)

Time: 2 Hours Max. Marks : 60

Instructions:

1. All questions are compulsory.
2. Draw a neat labelled diagrams and give equations wherever necessary.

1. Answer any SIX of the following questions: (6 × 2 = 12)

a) Define accuracy.
b) Name any two indicators used in acid base titration.
c) State Hund's rule.
d) Give de Broglie's equation.
e) What is a covalent bond ?
f) State Huckel's rule of aromaticity.
g) Define Boyle's temperature.
h) State Nernst's distribution law.

2. Answer any THREE of the following questions: (4×3 = 12)

a) Explain in brief about determinate and indeterminate errors.
b) Explain the titration curve of a strong acid against a strong base using a suitable example.
c) Explain the usage of Eriochrome black – T in complexometric titration.
d) 10cc of 36 N sulphuric acid is diluted to 1000 cc. Calculate the normality and molarity of the diluted solution.

3. Answer any THREE of the following questions: (4×3 = 12)

a) What are quantum numbers ? Explain in brief the principle quantum number.
b) Derive an expression for radius of the orbital in hydrogen atom.
c) Explain the variation of enthalpy of ionization of s and p block elements down the group.
d) Mention the rules for filling electrons in various orbitals.

4. **Answer any THREE of the following questions:** **(4×3 = 12)**

a) Explain electromeric effect with suitable examples.

b) Explain ozonolysis with a suitable example.

c) Give SN_1 reaction mechanism.

d) Explain the mechanism of Chlorination of an alkane.

5. **Answer any THREE of the following questions:** **(4×3 = 12)**

a) Give the relation between Van der Waal's constants and

i) Critical pressure ii) Critical temperature.

b) Write a note on Andrew's isotherms of CO_2.

c) Explain i) Collision frequency ii) Mean free path.

d) Calculate the amount of substance extracted when 100 CC of ether is shaken with 1000 CC of aqueous solution containing 10 g of substance (K_D of substance between ether and water is 2.5)

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QP. Code: 47024

Reg. No. | | | | | | | | |

First Semester B.Sc. (NEP) Degree Examination,
December / January 2024-25
(Repeater)
COMPUTER SCIENCE
(A0240) Computer Fundamentals and Programming in 'C'

Time : 2 Hrs **Max. Marks : 60**

Instructions to Candidates:

1) **Answer all questions.**
2) **Draw neat diagram wherever necessary.**
3) **Write syntax wherever necessary**

I. Answer any SIX questions. Each question carries 2 marks. **(6x2=12)**

1. Expand BCD, ASCII, ALU, RAM.
2. What is Interpretes and Compiler.
3. What is Keyword ? Give example.
4. List the Logical Operators in C.
5. Write the syntax for Do-while with example.
6. Define Single Dimension array with syntax.
7. What is Structure ? How to declare a structure variable.
8. Write the syntax for user defined function.

II. Answer any THREE questions. Each question carries 4 marks. **(3x4=12)**

a) Explain a Basic structure of C program.

b) Explain characteristics of Computers.

c) Explain System Software.

d) Explain the basic organization of Computer.

III. Answer any THREE questions. Each question carries 4 marks. **(3x4=12)**

a) Explain any 4 Tokens of C Programming

b) Explain print+() and scanf() statement.

c) Explain Arithmetic Operator and Assignment Operator.

d) What is Arithmetic Operator ? State the precedence and associativity rule of an arithmetic operator.

IV. Answer any THREE questions. Each question carries 4 marks. **(3x4=12)**

a) Explain Nested If-Else statement with example.

b) Explain For-Loop with example.

c) What is an array ? How do declare & initialize one dimension array?

d) Explain character handling functions with syntax.

IV. Answer any THREE questions. Each question carries 4 marks. **(3x4=12)**

a) What is Pointer ? How to declare & initialize pointer?

b) Explain components of user defined functions.

c) Explain structure definition with example.

d) Explain the function with no arguments and with return value.

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31206

531837 Reg. No. | | | | | | | | | |

I Semester B.Sc. (SEP) Degree Examination, December/January - 2024-25

COMPUTER SCIENCE

Fundamentals of Computer with Programming in C

(Regular)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates :

1. **Answer all Sections.**
2. **Draw neat diagram wherever necessary.**
3. **Write syntax wherever necessary.**

SECTION - A

I. Answer any TEN of the following questions. Each question carries 2 marks. (10×2=20)

1. Which electronic components are used in first and second generation of computers.
2. Convert $235_{(10)}$ to binary number.
3. Write an algorithm to find largest of three numbers.
4. What are storage classes?
5. What is conditional operator? Give example.
6. Write the syntax and example of do-while statement.
7. What are jump loop statements?
8. Define pointer. How do you declare it?
9. Define array and mention its types.
10. Write a statement to calculate the length of a string "computer science".
11. Define function. Mention its types.
12. Differentiate structure and union.

SECTION - B

II. Answer any FOUR of the following questions. Each question carries 5 marks. (4×5=20)

13. Define operating system. Explain its types in detail.
14. Convert $FADE_{(12)}$ to Decimal, Binary and Octal numbers.

[P.T.O.

15. What is arithmatic expression? Explain evaluation of expression with example.
16. Write a c-program to demonstrate switch case statement with example.
17. Explain string handling functions with example.

SECTION - C

III. Answer any FOUR of the following questions. Each question carries 10 marks. **(4×10=40)**

18. a) Explain classification of computer.
    b) Write an algorithm and flowchart to generating prime numbers. **(5+5)**
19. a) Explain any three c-tokens in detail.
    b) Explain any three operators in 'C' with example. **(5+5)**
20. a) Write a program to demonstrate using getch(), putch(), gets(),and puts()functions.
    b) Differentiate for loop, while loop statements. **(5+5)**
21. a) Define array. Explain its types.
    b) Explain character handling functions. **(5+5)**
22. a) Write a note on pointers.
    b) Explain any one user defined function with example. **(5+5)**

QP. Code: 10961 / 20901

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First Semester All UG Courses

December / January 2024-25

COMPUTER SCIENCE

(A 9010) : Digital Fluency (OEC) (Repeater)

(Theory Pattern + MCQ Pattern)

Time : 1 Hr. Max. Marks : 25

Instructions:

1. **Answer ALL questions.**
2. **All questions are MCQ.**
3. **Each question carries ONE mark.**

1. One byte consists of _____ no. of bits.
   (a) 4 (b) 6 (c) 1 (d) 8
2. Which is a device that changes information into digital form ?
   (a) light - pen (b) Modem (c) Program (d) Digitizer
3. An assembler is a _____
   (a) Language (b) Symbol (c) Program (d) Code
4. The _____ was built by Charles Babbage.
   (a) Analytical Engine (b) Abacus
   (c) Difference Engine (d) Calculator
5. VDU stands for _____
   (a) Virtual Display Unit (b) Visual Display Unit
   (c) Virtual Detection Unit (d) Visual Detection Unit
6. Artificial Intelligence is used in _____
   (a) Health Care (b) Manufacturing
   (c) Entertainment (d) All of these
7. Which one of the following is one of the World's largest Hadoop cluster ?
   (a) Apple (b) Data matrics
   (c) Facebook (d) None of these
8. Which of the following is not an example for an operating system ?
   (a) Android (b) M S Excel (c) Window - 10 (d) Linux
9. In MS Word, how many ways a text can be aligned ?
   (a) 2 ways (b) 3 ways (c) 4 ways (d) 5 ways
10. Data in _____ bytes size is called Big data.
    (a) Tera (b) Giga (c) Peta (d) Meta

11. In MS Excel, columns are represented by _____
    (a) Numbers (b) Letters (c) Symbols (d) Cells
12. Google forms created are saved in _____ .
    (a) Cloud (b) Google Drive (c) Computer (d) All of the above
13. In MS Excel, shows the used formula of selected active cell _____
    (a) Menu bar (b) Scroll bar (c) Task bar (d) Formula Bar
14. Shortcut key to open a new blank document in MS Word .....
    (a) CTRL +N (b) CTRL +O (c) CTRL +B (d) CTRL +M
15. Which of the following option is used to see all slides at once ?
    (a) Slide view (b) Slide sorter view
    (c) All slide view (d) None of the above
16. Google does is similar to which of the following application ?
    (a) Microsoft outlook (b) MS Word
    (c) Text Document (d) MS Excel
17. How are data organized in a spread sheet ?
    (a) Lines and Spaces (b) Layers and planes
    (c) Rows and Columns (d) Margin and Width
18. www uses _____ protocol.
    (a) FTP (b) HTTP (c) WBC (d) MTP
19. Which of these is not a medium for e-mail ?
    (a) Intranet (b) Internet (c) Extranet (d) Paper
20. Which of these, the easiest way of communication ?
    (a) E-mail (b) Telephone (c) Fax (d) Letter
21. SWAYAM e-learning application provides _____
    (a) Video lecture (b) Reading materials
    (c) Test & quizes (d) All of the above
22. The first computer view is _____
    (a) Sasser (b) Creeper (c) Bluster (d) None
23. For protection cyber security is used _____
    (a) Hardware, Software and data (b) Inter connected systems
    (c) Both (A) and (B) (d) None
24. _____ is function of E-commerce.
    (a) Marketing (b) Supply chain (c) Finance (d) All of these
25. Which of the following is not a form of E-commerce.
    (a) C to B (b) B to C (c) B to B (d) A to B

* * *

QP. Code: 10961 / 20901

Reg. No. | | | | | | | | |

First Semester All UG Courses

December / January 2024-25

COMPUTER SCIENCE

(A 9010) : Digital Fluency (OEC) (Repeater)

(Theory Pattern + MCQ Pattern)

Time : 1½ (90 Min.) Hrs Max. Marks : 25

Instructions:

1. **Answer ALL the questions.**

SECTION - A

Answer all FIVE questions, select the most appropriate answer from the following: **(5x1=5)**

1. The process of producing useful information for the user is called _____ .
   (a) controlling (b) Outputting
   (c) Inputting (d) Processing
2. The main memory holds data and program _____
   (a) Temporarily (b) Permanently
   (c) Only once (d) None
3. Which of the following is not a font style ?
   (a) Bold (b) Italics
   (c) Regular (d) Super Script
4. Unsolicited e-mail is called a _____.
   (a) News group (b) Usenet
   (c) Backbone (d) Spam
5. www uses _____ protocol.
   (a) FTP (b) HTTP (c) WBC (d) MTP

SECTION - B

Answer all FIVE questions, Each question carries TWO marks: **(5x2=10)**

6. Mention any two applications of Artificial Intelligence.
7. What is big data ?

11. In MS Excel, columns are represented by _____
(a) Numbers (b) Letters (c) Symbols (d) Cells

12. Google forms created are saved in _____ .
(a) Cloud (b) Google Drive (c) Computer (d) All of the above

13. In MS Excel, shows the used formula of selected active cell _____
(a) Menu bar (b) Scroll bar (c) Task bar (d) Formula Bar

14. Shortcut key to open a new blank document in MS Word .....
(a) CTRL +N (b) CTRL +O (c) CTRL +B (d) CTRL +M

15. Which of the following option is used to see all slides at once ?
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19. Which of these is not a medium for e-mail ?
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20. Which of these, the easiest way of communication ?
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21. SWAYAM e-learning application provides _____
(a) Video lecture (b) Reading materials
(c) Test & quizes (d) All of the above

22. The first computer view is _____
(a) Sasser (b) Creeper (c) Bluster (d) None

23. For protection cyber security is used _____
(a) Hardware, Software and data (b) Inter connected systems
(c) Both (A) and (B) (d) None

24. _____ is function of E-commerce.
(a) Marketing (b) Supply chain (c) Finance (d) All of these

25. Which of the following is not a form of E-commerce.
(a) C to B (b) B to C (c) B to B (d) A to B

* * *

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Reg. No. | | | | | | | | |

I Semester B.Sc.(SEP) Degree Examination, December/January - 2024-25

HINDI

कहानी कुंज

निबंध लेखन और अनुवाद

PAPER-AECC

(Regular/Repeater)

Time : 3 Hours **Maximum Marks : 80**

I. किन्ही दस प्रश्नों के उत्तर लिखिए। (10×1=10)

1) लमही में किस लेखक का जन्म हुआ?
   अ) यशपाल ब) प्रेमचंद क) मोहन राकेश
2) कहानी कुंज पुस्तक के संपादक कौन हैं?
   अ) डॉ.पूर्णिमा आर ब) डॉ.मंजरी पाठक क) अजय शुक्ला
3) कफन कहानी का प्रमुख पात्र कौन हैं?
   अ) शकलदीप ब) बुध्दगुप्त क) घीसू
4) चंपा किस कहानी की नायिका हैं?
   अ) अपरिचित ब) सलाम क) आकाशदीप
5) मोहन राकेश किस कहानी के लेखक हैं?
   अ) आदमी का बच्चा ब) अपरिचित क) साइकिल
6) वर्ग–संघर्ष का लेखक किसे कहा जाता हैं?
   अ) यणपाल ब) उदय प्रकाश क) मोहन राकेश
7) 6 जनवरी 1932 को किस लेखक का जन्म हुआ?
   अ) जयशंकर प्रसाद ब) कमलेश्वर क) प्रेमचंद
8) डौली किस कहानी की पात्र हैं?
   अ) साइकिल ब) सलाम क) आदमी का बच्चा
9) 'समानान्तर कथा आन्दोलन' किस लेखक ने चलाया?
   अ) कमलेश्वर ब) प्रेमचंद क) ओमप्रकाश वाल्मीकि
10) शकलदीप बाबू किसके पिता हैं?
   अ) शंकर ब) नारायण क) चंदर
11) साइकिल कहानी के लेखक कौन हैं?
   अ) उदय प्रकाश ब) यशपाल क) कमलेश्वर
12) इनमें से दलित साहित्यकार कौन हैं?
   अ) कमलेश्वर ब) ओमप्रकाश वाल्मीकि क) अमरकांत

P.T.O.

II. किन्हीं दो का ससंदर्भ स्पष्टीकरण कीजिए। (2×5=10)

1) "आया,पिल्लों को गरम पानी में डुबोकर क्यों मार दिया?"
2) "हमारे ये तो बच्चों को छुते भी नहीं।"
3) "बबुआ के लिए नाश्ते का इन्तजाम क्या करोगी?"
4) "मैं कहता हुँ,उसे कफन मिलेगा, क्यों नहीं?"

III. किन्ही दो की टिप्पणी कीजिए। (2×5=10)

1) डौली
2) चंदर
3) शकलदीप
4) माधव

IV. किन्ही तीन प्रश्नों के उत्तर लिखिए। (3×10=30)

1) 'कफन' कहानी का सारांश लिखिए।
2) 'आकाशदीप' कहानी में लेखक ने प्रेम और बलिदान का चित्रण किस प्रकार से किया हैं। स्पष्ट कीजिए।
3) 'डिप्टी कलक्टरी' कहानी असफल स्वप्नों की दर्द भरी कहानी है–इस पर प्रकाश डालिए।
4) 'सलाम'कहानी जाति संघर्ष और विद्रोह को दर्शाती है–स्पष्ट कीजिए।
5) 'खोई हुई दिशाएँ' कहानी मानवीय संबंधो की टूटन को किस प्रकार अभिव्यक्त करती हैं?

V. अ) किसी एक विषय पर निबंध लिखिए। (1×10=10)

1) जल संरक्षण
2) बेटी बचाओं,बेटी पढ़ाओ
3) साहित्य और समाज
4) समाज में युवकों का स्थान
5) विज्ञान शाप या वरदान

आ) हिंदी में अनुवाद कीजिए। (10)

The News paper tells us what is happening all over the world, within a very few hours or any great events, no matter in which part of the world it occurs, we can read about it in the news paper.

ಸಮಾಚಾರ ಪತ್ರಗಳು ನಮಗೆ ಜಗತ್ತಿನಾದ್ಯಂತ ಜರಗುವ ಘಟನೆಗಳ ಬಗ್ಗೆ ತಿಳಿಸುತ್ತವೆ. ಯಾವುದೇ ಮಹತ್ವದ ಘಟನೆ, ಜಗತ್ತಿನ ಯಾವುದೇ ಭಾಗದಲ್ಲಿ ಸಂಭವಿಸಲಿ ಅದನ್ನು ಕೇವಲ ಕೆಲವೇ ಗಂಟೆಗಳಲ್ಲಿ ನಾವು ಸಮಾಚಾರ ಪತ್ರಗಳಲ್ಲಿ ಓದಬಹುದು.

47005/48305/A0050

Reg. No. | | | | | | | | |

I Semester B.Sc. (NEP) Degree Examination, March/April - 2024

HINDI

1) कहानी कुंज 2) हिन्दी भाषा के विविध रुप

Paper-AEC

(Regular)

Time : 2 Hours **Maximum Marks : 60**

I. किन्हीं दस प्रश्नों के उत्तर लिखिए। **(10×1=10)**

1. कहानी कुंज के अंतर्गत ..... कहानियाँ है।

   A) 9 B) 10 C) 8

2. उदय प्रकाश का जन्म कब हुआ?

   A) 1954 B) 1952 C) 1950

3. 'कितने पाकिस्तान' उपन्यास ..... में प्रकाशित हुआ था।

   A) 2000 B) 2001 C) 2002

4. आकाशदीप कहानी में चित्रीत नायिका का नाम ..... है।

   A) चंपा B) राधिका C) अलका

5. हिन्दी दिवस कब मनाया जाता है।

   A) 24 अक्तुबर B) 24 दिसंबर C) 14 सितंबर

6. इन में से कौन छायावादी कवि नहीं है।

   A) जयशंकर प्रसाद B) महादेवी वर्मा C) कुमार अंबुज

7. मोहन राकेश का निधन सन ..... ई.में हुआ।

   A) 1972 B) 1974 C) 1971

8. बाल मनोविज्ञान से संबंधित कहानी ..... है।

   A) साइकिल B) आदमी का बच्चा C) अपरिचित

9. बोलचाल की भाषा ..... होती है।

   A) कठिन B) लचीती C) मानक

P.T.O.

10. राजभाषा हिंदी के स्वरुप का फॉर्मुला किसने पेश किया?

A) लाल बहादुर शास्त्री B) पं.जवाहरलाल नेहरु C) एन्.गोपाल स्वामी अय्यंगार

11. 'दीशी' यह पात्र किस कहानी में चित्रित है?

A) अपरिचित B) डिप्टी कलक्टरी C) खोयी हुई दिशाएँ

12. नाटक के क्षेत्र में प्रथम स्थान पानेवाले मोट ककार ..... है।

A) मोहन राकेश B) कमलेश्वर C) अमरकांत

II. किन्हीं तीन की ससंदर्भ व्याख्या कीजिए। (3×5=15)

1. "क्या स्त्री होना पाप है?"
2. देखो तो माली को! कम बख्त के तीन बच्चे पहले है, एक और हो गया।
3. "चलो फिर आज तो हो ही जाये, क्या है इस जिंदगी में।"
4. भाई, समझलो, तुम्हारे करम में नौकरी लिखी ही नहीं।
5. भालू को साइकिल का पागलपन था। वह रात में भी, जब सो जाने,साइकिल चलाना।

III. किन्हीं दो प्रश्नों के उत्तर लिखिए। (2×10=20)

1. 'कफन' कहानी का सारांश अपने शब्दो में लिखिए?
2. 'सलाम' कहानी का उद्देश्य स्पष्ट कीजिए?
3. खोयी हुई दिशाएँ' कहानी में चित्रित समस्याओं के प्रति जानकारी दीजिए?
4. 'अपरिचित' कहानी की विशेषताएँ बताईए?

IV. किन्ही पाँच प्रश्नों के उत्तर लिखिए। (5×2=10)

1. हिन्दी भाषा के विविध रूप संक्षेप में लिखिए।
2. मानक भाषा किसे कहते है?
3. राजभाषा हिन्दी के स्वरूप का फॉर्मूला किसने पेश किया और उसे कब स्वीकारा?
4. राष्ट्रभाषा की परिभाषा बताईए।
5. बोलचाल की भाषा का अर्थ लिखिए।
6. संपर्क भाषा किसे कहते है?
7. राज्यभाषा किसे कहते है?

V. किसी एक प्रश्न का उत्तर लिखिए। (1×5=5)

1. भाषा और बोली में अंतर स्पष्ट बताइए।
2. हिन्दी भाषा के विविध रूपों पर प्रकाश डालिए।

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Reg. No. | | | | | | | | |

I Semester B.Sc. 6 (NEP) Degree Examination, March/April- 2024

MATHEMATICS

Algebra - I and Calculus - I

Paper : DSC

(Regular/Repeater)

Time : 2 Hours **Maximum Marks : 60**

***Instructions to Candidates*:**

1. **Answer All questions.**
2. **Answer any Six from Q.No.1**
3. **Answer any Three questions from Q.No.2,3,4 and 5.**

1. Answer any SIX of the following. **(6×2 = 12)**

a) Define rank of a matrix.

b) Find the eigen values of the matrix $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$

c) For the curve $\frac{2a}{r} = 1 - \cos\theta$ Show that $\phi = \pi - \frac{\theta}{2}$

d) Find $\frac{ds}{dx}$ for the curve $y = log\, secx$

e) Discuss the continuity of $f(x) = \begin{cases} 5-x, & if\ x \leq 2 \\ 2x-1, & if\ x > 2 \end{cases}$, at $x=2$.

f) Evaluate $\lim_{x \to 0} \frac{\log \sin x}{\log x}$.

g) Find the n^{th} derivative of $log(ax+b)$

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

[P.T.O.

2. Answer any THREE of the following. **(3×4 = 12)**

a) State cayley Hamilton theorem and verify it for the matrix $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$

b) Find the rank of the matrix $\begin{bmatrix} 1 & 3 & 1 & 2 \\ 2 & 2 & 3 & 1 \\ 3 & 1 & 2 & 3 \end{bmatrix}$

c) Prove that the rank of a matrix is unaltered by interchanging any two rows of a matrix.

d) Show that the system of equations $2x-y+3z=8,\ -x+2y+z=4,\ 3x+y-4z=0$ has unique solution and hence solve them.

3. Answer any THREE of the following. **(3×4 = 12)**

a) With usual notation prove that $\tan\phi = r\frac{d\theta}{dr}$.

b) Find the pedal equation for the curve $r^n = a^n \cos n\theta$

c) Derive the formula of radius of curvature for the curve $y = f(x)$ at (x,y)

d) Find the circle of curvature for the curve $\sqrt{x}+\sqrt{y}=1$ at a point $\left(\frac{1}{4},\frac{1}{4}\right)$

4. Answer any THREE of the following. **(3×4 = 12)**

a) If $\lim_{x\to a} f(x) = l$ *and* $\lim_{x\to a} g(x) = m$ then prove that $\lim_{x\to a}[f(x).g(x)] = l.m$

b) State and prove intermediate value theorem.

c) State and prove Lagrange's mean value theorem

d) Expand log (1+x) by using Maclaurin's theorem upto 5th degree terms.

5. **Answer any THREE of the following.** (3×4 = 12)

a) If $y = sinx.sin2x.cos3x$ then find y_n

b) Find the nth derivative of $e^{2x}\sin(3x+5)$.

c) State and prove Leibnitz's theorem for nth derivative of product of two functions.

d) If $y = \sin(m\sin^{-1}x)$ then prove that $(1-x^2)y_{n+2} - (2n+1)xy_{n+1} + (m^2 - n^2)y_n = 0$

QP. Code: 47002/47702/48302

Reg. No. | | | | | | | | |

First Semester B.Sc. (NEP) Degree Examination
December /January 2024-25
(Repeaters)
ENGLISH
PAPER : (A0020) : Generic English - I

Time : 2 Hrs Max. Marks : 60

I. Answer the following questions in a word, a phase,or a sentence each: (1x10=10)

1. Who wrote the essay 'Water the Elixir of Life'?
2. What is the elixir of life according to C.V. Raman?
3. What is good English?
4. Who is Tembu?
5. Expand BBC.
6. Who wrote the poem 'The Road Not Taken'?
7. What does poet compare his head to?
8. What is the theme of the poem 'To India My Native Land'?
9. Who will make the temples for Shiva?
10. What is the central message of the poem 'The Road Not Taken'?

II. A) Analyze the summary of 'Spoken English and Broken English'. **(1x10=10)**

OR

b) How is water the 'True Elixir of Life'? Explain.

III. A) Discuss the theme of the poem "The Road Not Taken"? **(1x10=10)**

OR

b) Explain the tone of the poem "To India, My Native Land'.

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

1. Draft your self-introduction for job interview.
2. Write a congratulatory note to your friend for his/her selection in the UPSC exam.
3. Write instructions on the task of 'Preparing tea' in a paragraph by using the words such as , firstly, after this, next then, the next step is subsequently, in the following stage, etc.
4. Draft a conversation between Rani and Arpit regarding the preparation of the annual exam.

V. Answer any FOUR of the following questions. :

A) Use the following words in sentences as directed : (5x1=5)

1. 'Table' as a noun.
2. 'Colour' as a noun.

3. 'Work' as a verb.
4. 'Beauty' as an adjective
5. 'Quick' as an adverb

B) Fill in the blanks with suitable articles. **(5x1=5)**

1. I have _____ car.
2. Ravi is _____ MLA.
3. She is _____ best girl in the class.
4. Prabhu is _____ honest student.
5. _____ Ganga is a holy river in India.

C) Fill in the blanks with suitable prepositions. **(5x1=5)**

1. Sita placed her books _____ the chair.
2. I come to college _____ 9 o'clock.
3. The dog is _____ the tree.
4. The property has divided _____ two sons.
5. I read the Hindu newspaper daily _____ two hours.

D) Convert the following direct questions into indirect questions. **(5x1=5)**

1. How old you are?
2. What time is it?
3. Why are you late?
4. Where is the bank?
5. Will you come to class tomorrow?

E) Frame the negative questions **(5x1=5)**

1. Ravi is fond of Indian Food.
2. The girl got what she desired.
3. She sings a song melodiously.
4. Prema has arrived yesterday.
5. He lives in America.

F) Frame the questions as directed. **(5x1=5)**

1. Ramesh got the first rank in B.A.
   (Frame WH question to get underlined word as the answer).
2. Parimala married a rich man
   (Frame WH question to get underlined word as the answer).
3. I am going to college, ...? (Add tag)
4. Do you eat an apple for a day? (Frame Yes/No questions to get answer)
5. Does she speak English? (Frame Yes/No questions to get answer)

* * *

QP. Code: 47022

Reg. No. | | | | | | | | |

First Semester B.Sc. (NEP) Degree Examination
December / January 2024-25
(Repeaters)
BOTANY
PAPER : (A0220) : Microbial Diversity and Technology

Time : 2 Hrs Max. Marks : 60

Instructions to Candidates:

1) **Answer all the questions.**
2) **Draw diagrams wherever necessary.**

I. Answer any SIX of the following questions. (6x2=12)

1. Louis Pasteur
2. SEM
3. Indicator Media
4. Chemotrophs
5. TMV
6. Pure culture
7. VAM fungi
8. Phytoplasma

II. Answer any THREE of the following questions. (3x4=12)

9. Explain Five Kingdom classification system.
10. Write about the significance of microbes for man.
11. Describe the working principles & applications of light microscope.
12. What are the methods of estimation of microbial growth.

III. Answer any THREE of the following questions. (3x4=12)

13. Explain different Nutritional types of microbes.
14. Explain the methods of heat sterilization and chemical sterilisation.
15. What are culture media? Explain different types.
16. Give an account of preservation methods.

IV. Answer any THREE of the following questions. (3x4=12)

17. Draw a neat labelled diagram of Bacteriophage and explain.
18. What are the economic importance of viruses?
19. Explain tyndalization and Pasteurisation.
20. Write about the vaccines and its types.

V. Answer any THREE of the following questions. (3x4=12)

21. Explain the ultra structure of Bacteria.
22. Write a note of Mycoplasma.
23. Describe the life cycle of Rhizopus.
24. Explain asexual methods of reproduction in fungi.

* * *

47022/A0220

Reg. No. | | | | | | | | |

I Semester B.Sc. (NEP) Degree Examination, March/April - 2024

BOTANY

Microbial Diversity and Technology

(Regular/Repeater)

Time : 2 Hours **Maximum Marks : 60**

Instructions to Candidates:

Draw a neat and labelled diagrams wherever necessary.

I. Answer any SIX of the following. **(6×2=12)**

1) Louis pasteur.
2) SEM.
3) Pure Culture
4) Chemotrophs.
5) ITCC.
6) Viriods.
7) Rhizopus.
8) Citrus canker.

II. Answer any THREE of the following. **(3×4=12)**

9) Explain R.H. Whittacker's five kingdom classification.
10) Describe the distribution of microbes in food.
11) Give an account of Microbial diversity.
12) Explain the contributions of Antonie Van Leeuwenhoek.

[P.T.O.

III. Answer any THREE of the following. (3×4=12)

13) Mention the types of sterilization.

14) Explain the tyndalisation and pasteurization.

15) Explain types of preservation methods.

16) Explain the method of measurement of Bacterial cell.

IV. Answer any THREE of the following. (3×4=12)

17) Explain the structure of Bacteriophage.

18) Explain the structure of PSTVD.

19) Explain ICTV system of classification.

20) Write a note on MTCC and ATCC.

V. Answer any THREE of the following. (3×4=12)

21) Explain the Ultrastructure of Bacteria.

22) Explain the Rhizobium and its applications.

23) Explain the Heterothallism and parahexuality.

24) Explain the downy mildew of Bajra.

47024/A0240

Reg. No. | | | | | | | | |

I Semester B.Sc. 6 (NEP) Degree Examination, March/April- 2024

COMPUTER SCIENCE(DSC)

Computer Fundamentals and Programming in C

(Regular/Repeater)

Time : 2 Hours **Maximum Marks : 60**

***Instructions to Candidates*:**

1. **Answer all questions.**
2. **Draw neat diagram wherever necessary.**
3. **Write syntax wherever necessary.**

Answer any **Six** questions. Each question carries **2** marks. **(6×2 = 12)**

1. a) What is Algorithm and Flowchart?

   b) Expand RAM, ROM, BIOS, ALU.

   c) What is built in data types? Give example.

   d) Write input and output statements in C Give example.

   e) Write the syntax of for loop with example.

   f) Write the syntax for isalpha and is numeric functions with example.

   g) Define structure. Give example.

   h) What is a pointer? Give example.

Answer any **Three** questions. Each question carries **4** marks. **(3×4 = 12)**

2. a) Explain the basic organization of computer.

   b) Convert $(278)_{10}$ to binary and octal.

   c) Explain algorithm and flowchart for largest among three numbers.

   d) Explain the structure of a C- Program.

[P.T.O.

Answer any **Three** questions. Each question carries **Four** marks. (3×4 = 12)

3. a) What is a data type? Explain its classifications.

   b) Explain unformatted input /output functions in C.

   c) Explain Relational and logical operators.

   d) Explain the operator precedence and Associativity. Evaluate $-a+b*c-d/e+f$ Where a=1, b=4, c=2, d=4, e=2, f=3.

Answer any **Three** questions Each question carries **4** marks. (3×4 = 12)

4. a) Explain switch. case statement with example.

   b) Compare and contrast While' and do-while. Loops in C Illustrate with example.

   c) Describe the structure of a 2D array with example Illustrate memory representation of 2D array.

   d) With syntax explain any 4 string handling functions.

Answer any **Three** questions. Each question carries **4** marks. (3×4 = 12)

5. a) Write a C program to demonstrate pointers in C.

   b) What is a user-defined function? Explain its components.

   c) Differentiate structure and union.

   d) Explain the function with argument and no return value.

47002/47702/48302/A0020

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I Semester B.Sc. (NEP) Degree Examination, March/April- 2024

ENGLISH

Generic English-I (AECC)

(Regular)

Time : 2 Hours **Maximum Marks : 60**

I. Answer the following questions in a word a phrase or a sentence each. (10×1= 10)

1) Which is the commonest of all liquids?
2) What is meant by a provincial or cockney dialect?
3) Who is Tembu?
4) Where do much of the rice is grown?
5) How far is the station from Baldeo's tribal village?
6) Name the translator of vachana 820.
7) Who is a lord of meeting rivers?
8) What is the theme of the poem To India My Native Land?
9) Which road did the poet choose?
10) Who wrote the poem "The Road not Taken"?

II. a) What are the claims of G.B show that no native speaker speaks correct English? **(1×10 = 10)**

(OR)

b) Sketch the character of Baldeo.

III. a) Critically appreciate the poem "To India My Native Land". **(1×10 =10)**

(OR)

b) Bring out the symbolism presented in the poem "The Road Not Taken"

[P.T.O.

IV. Answer any Two of the following questions. **(2×5 = 10)**

1) Draft a copy of your introduction befor a panel of interview members highlighting your strengths.

2) Write a congratulatory note on your friends success in getting selected for the post of IAS.

3) Draft an inquiry dialogue between you and a book seller after you visit a book depot to buy a book.

4) Write a note on introducing your family members to your friends on their visit to your home.

V. Answer any Four of the following sets. **(4×5 =20)**

A) Use the following words as directed. **(5×1 = 5)**

1) Danger as an adjective.

2) Calculation as a verb.

3) Accept as a noun.

4) Bad as an adverb.

5) Sing as a noun.

B) Fill in the blanks with suitable Articles. **(5×1 = 5)**

1) His brother is ——— honest man.

2) ——— sun shines by day.

3) She saw ———apple on the branch.

4) He is ——— university professor.

5) Honesty is ——— best policy.

C) Fill in the blanks with suitable preposition. **(5×1 = 5)**

1) He died——— Cholera.

2) The school opens—— 9:30 am.

3) The essay is written —— EV lucas.

4) She will come—— Sunday.

5) The young ladies went ——— the hall.

D) Convert the following direct questions into indirect questions. (5×1 = 5)

1) Where is market street?
2) Do they work in Canada?
3) What time does the bank open?
4) Is he a teacher?
5) When does the next train arrive?

E) Frame the negative questions. (5×1 = 5)

1) Students are making furniture.
2) The carpenter was making a noise.
3) He is a player.
4) She was in the college.
5) She is knitting a sweater.

F) Frame the questions as directed (5×1 = 5)

1) He works in an office.
(Frame 'WH' question to get underlined words as answer)
2) Valmiki wrote Mahabharata.
(Frame 'WH' question to get underlined words as answer)
3) She lives in Hongkong——?
(Add tag)
4) Yes it was a useful class.
(Frame Yes/No question to get this answer)
5) No he did not attend the function
(Frame Yes/No question to get this answer)

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Reg. No. | | | | | | | | | |

I Semester B.Sc. (NEP) Degree Examination, March/April - 2024

KANNADA

ಕನ್ನಡ ಸಂವರ್ಧನೆ

Paper : AECC-I

(Regular)

Time : 2 Hours **Maximum Marks : 60**

Instructions to Candidates:

ಭಾಷೆ ಮತ್ತು ಬರಹದ ಶುದ್ಧಿಗೆ ಗಮನ ಕೊಡಲಾಗುವುದು.

1. a) ಕನ್ನಡದ ದೀಪ ಪದ್ಯದ ಸ್ವಾರಸ್ಯವನ್ನು ವಿವರಿಸಿ. **(10)**

(ಅಥವಾ)

b) ಕನ್ನಡ ಸಾಹಿತ್ಯ ಮತ್ತು ಇತಿಹಾಸ ಒಂದು ನಾಣ್ಯದ ಎರಡು ಮುಖ ಎಂಬ ಮಾತನ್ನು ಚಿದಾನಂದ ಮೂರ್ತಿಯವರ ಮಾತುಗಳಲ್ಲಿ ವಿವರಿಸಿ.

2. a) 'ಬೀಜ ಮತ್ತು ಭೂಮಿ' ಕುರಿತಾಗಿ ವಂದನಾಶಿವ ಅವರ ಅಭಿಪ್ರಾಯಗಳಲ್ಲಿ ಚರ್ಚಿಸಿ. **(10)**

(ಅಥವಾ)

b) 'ಮಣ್ಣಿನ ಮಿರವಗೆ'ಗೆ ಪದ್ಯದಲ್ಲಿ ಮಣ್ಣಿನ ಮಹತ್ವದ ಕುರಿತು ಕವಿಯ ಅಭಿಪ್ರಾಯಗಳನ್ನು ಚರ್ಚಿಸಿ.

3. a) ಸಹಸ್ರ ಬುದ್ಧೆಯವರ 'ವಿಜ್ಞಾನ ಪ್ರಶ್ನೆಯ' ಪ್ರಸ್ತುತತೆಯನ್ನು ಬರೆಯಿರಿ. **(10)**

(ಅಥವಾ)

b) 'ದೇವರು ಪೂಜಾರಿ ಪದ್ಯದ ಸ್ವಾರಸ್ಯವನ್ನು ಬರೆಯಿರಿ.

4. a) ಜಾನಪದಲ್ಲಿ ಬಿತ್ತನೆಯ ಕಾಲ ಸಡಗರದಿಂದ ಕೂಡಿರುತ್ತದೆ ಚರ್ಚಿಸಿ. **(10)**

(ಅಥವಾ)

b) ಸಾಹಿತ್ಯದಲ್ಲಿ ವೈಚಾರಿಕತೆ ಹೇಗೆ ಹಾಸುಹೊಕ್ಕಾಗಿದೆ ಎಂಬುದನ್ನು ಡಾ. ಕೀರ್ತಿನಾಥ ಕುರ್ತಕೋಟಿಯವರ ಮಾತುಗಳನ್ನು ಚರ್ಚಿಸಿ.

5. ಬೇಕಾದ **ಎರಡಕ್ಕೆ** ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ. **(2×5=10)**

a) ಕನ್ನಡಾಂಬೆಯ ಹಿರಿಮೆ

b) ನಮ್ಮೂರ ಕೆರೆ

c) ಮೂರು ವ್ಯಕ್ತಿ ಚಿತ್ರಗಳು

d) ರತ್ನಾಕರವರ್ಣಿ

[P.T.O.

6. ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿರಿ. (10×1=10)

a) ಕನ್ನಡ ಸಂವರ್ಧನೆಯ ಸಂಪಾದಕರು ಯಾರು?

b) ಕನ್ನಡದ ದೀಪ ಪದ್ಯದ ಲೇಖಕರು ಯಾರು?

c) ಚಿದಾನಂದ ಮೂರ್ತಿಯವರ ಹುಟ್ಟೂರು ಯಾವುದು?

d) ಶಿವರಾಮ ಕಾರಂತರಿಗೆ ಯಾವ ಕೃತಿಗೆ ಜ್ಞಾನಪೀಠ ಪ್ರಶಸ್ತಿ ಸಿಕ್ಕಿದೆ?

e) ಭರತೇಶ ವೈಭವ ಯಾವ ಛಂದಸ್ಸಿನಲ್ಲಿ ರಚಿತವಾಗಿದೆ?

f) ಕುವೆಂಪುರವರ ಪೂರ್ಣ ಹೆಸರೇನು?

g) ಶಾಸನಗಳಲ್ಲಿ ಸಂಸ್ಕೃತಿಕ ಅಧ್ಯಯನ ಕೃತಿ ಯಾವುದು?

h) 'ಧ್ಯಾನದ ಗಾಂಧಿ' ಎಂದು ಯಾರನ್ನು ಕರೆಯಲಾಗುತ್ತದೆ?

i) ಕನ್ನಡಾಂಬೆಯ ಹಿರಿಮೆ-ಗರಿಮೆ ಹಾಡಿಹೋಗಳಿದವರಾರು?

j) ಭರತೇಶ ವೈಭವ ಯಾರ ಕೃತಿ.

47032/A0320

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I Semester B.Sc. 6 (NEP) Degree Examination, March/April- 2024

PHYSICS

Mechanics and Properties of Matter

(Regular/Repeater)

Time : 2 Hours **Maximum Marks : 60**

Instructions to Candidates:

1. ***Calculators are allowed.***
2. ***Show intermediate steps.***

Answer any SIX questions. **(6×2 = 12)**

1. a) What are scalar and vector fields?
   b) What is elastic and inelastic collision?
   c) Define radius of gyration.
   d) Define orbital velocity.
   e) State Hooke's law.
   f) What is bending of moment?
   g) Define surface energy.
   h) Name the dimensional formula for coefficient of viscosity.

Answer any ONE full question a and b or c and d.

2. a) State and explain work energy principle. **(8)**
   b) A body of mass 1 kg has kinetic energy 16 Joules calculate its linear momentum. **(4)**

(OR)

   c) What is rocket? State the principle of rocket. Drive an expression for the final velocity of the Rocket. **(8)**
   d) A mass of 5 kg at rest explodes into two pieces of 2 kg and 3kg. If 2 kg piece is moving with the velocity of 10 m/sec. calculate the velocity of 3 kg piece. **(4)**

Answer any one full question a and b or c and d.

3. a) Define orbital velocity. Obtain expression for the orbital velocity. **(8)**
   b) Calculate the orbital. velocity of a satellite moving close to the earth. Given $g=9.8$ m/sec^2 $R=6400$km. **(4)**

(OR)

[P.T.O.

c) Derive an expression for MI of circular disc about its diameter. (8)

d) Calculate the MI of fly wheel of mass 72 kg and radius 0.5 mt. (4)

Answer any one full question a and b or c and d.

4. a) Obtain the expression for couple per unit twist of the wire, fixed at one end and twisted by a couple at the free end. (8)

b) Calculate Young's modulus of the material.
Given $K=1.4\times10^{11}Nm^{-2}$ and $n=4.2\times10^{10}Nm^{-2}$ (4)

(OR)

c) Derive an expression for bending moment of a beam. (8)

d) Calculate the bending moment of a bar of young's modulus $20\times10^{10}Nm^{-2}$, geometrical moment of inertia 4×10^{-3} kg m^2 and bending radius 2 mt. (4)

Answer any one full question a and b or c and d.

5. a) Derive an expression for the rise of liquid in a capillary tube. (8)

b) Find the excess of pressure inside a spherical drop of water of radius 1mm, surface tension of water=73×10^{-3} N/M. (4)

(OR)

c) Derive poiseuille's formula for the flow of viscous fluid through a narrow tube. (8)

d) Find the viscous drag acting on steel ball of diameter 2 mm and moving with terminal velocity 5×10^{-2} m/s in a liquid.
Given: Coefficient of viscosity is 0.6 Ns^{-1} (4)

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47034/A0340

Reg. No. | | | | | | | | |

I Semester B.Sc. (NEP) Degree Examination, March/April - 2024

ZOOLOGY

Cytology, Genetics and Infectious Diseases

(Repeater/Regular)

Time : 2 Hours **Maximum Marks : 60**

Instructions to Candidates:

1) **Attempt all questions - Q. I, II, III, IV & V.**
ಎಲ್ಲ ಪ್ರಶ್ನೆಗಳನ್ನು ಉತ್ತರಿಸಿರಿ. **Q. I, II, III, IV & V.**

2) **Draw diagrams wherever necessary.**
ಅವಶ್ಯವಿದ್ದಲ್ಲಿ ಅಂದವಾದ ಚಿತ್ರವನ್ನು ಬಿಡಿಸಿರಿ.

I. Answer any SIX of the following. **(6×2=12)**

ಕೆಳಗಿನ ಯಾವುದೇ ಆರು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

1. What are the components of endomembrane system ?
ಎಂಡೋಮೆಂಬ್ರೇನ ವ್ಯವಸ್ಥೆಯ ಕಾಂಪೋನೇಂಟ್ಸ ಯಾವುವು ?

2. Name the widely accepted structural model of plasma membrane and who-proposed it.
ಪ್ಲಾಸ್ಮಾ ಮೆಂಬ್ರೇನಿನ ಹೆಚ್ಚು ಸ್ವೀಕೃತವಾದ ನಮೂನೆಯನ್ನು ಹೆಸರಿಸಿ ಮತ್ತು ಅದನ್ನು ಪ್ರತಿಪಾದಿಸಿದವರ ಹೆಸರು ಬರೆಯಿರಿ.

3. Give the differences of prokaryotic and eukaryotic cell with examples.
ಪ್ರೋಕ್ಯಾರಿಯೋಟಿಕ ಮತ್ತು ಯುಕ್ಯಾರಿಯೋಟಿಕ ಕೋಶಗಳ ವೈರುಧ್ಯಗಳನ್ನು ತಿಳಿಸಿರಿ ಉದಾಹರಣೆಯೊಂದಿಗೆ

4. What is 'X' linked inheritance ?
'X' ಲಿಂಕಡ ಅನುವಂಶೀಯತೆ ಎಂದರೇನು ?

5. What is meant by 'Turner's syndrome ?
ಟರ್ನರ್ಸ ಸಿಂಡ್ರೋಮ ಎಂದರೇನು ?

6. Define pheno type genotype.
ಫೀನೋಟೈಪ ಮತ್ತು ಜೀನೋಟೈಪನ್ನು ವಿವರಿಸಿ.

7. What is meant by chromosomal aberration ?
ಕ್ರೋಮೋಸೋಮಲ ಅಬರೇಶನ ಎಂದರೇನು ?

[P.T.O.

8. What is trypanosomiasis? Write the causative agent and the direct caused by it.
ಟ್ರಿಪ್ಯಾನೋಸೋಮಿಯಾಸಿಸ್ ಎಂದರೇನು ? ಅದನ್ನು ಹರಡುವ ಜೀವಿಯನ್ನು ಹೆಸರಿಸಿ.

II. Answer any THREE of the following. (3×4=12)
ಕೆಳಗಿನ ಯಾವುದೇ ಮೂರು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

9. Explain the structure and functions of endoplasmic reticulum.
ಎಂಡೋಪ್ಲಾಸ್ಮಿಕ ರೆಟಿಕ್ಯುಲಮನ ರಚನೆ ಮತ್ತು ಕಾರ್ಯಗಳನ್ನು ವಿವರಿಸಿ.
10. Protein targetting and sorting. Explain.
ಪ್ರೋಟೀನ ಟಾರ್ಗೆಟಿಂಗ ಮತ್ತು ಸಾರ್ಟಿಂಗನ್ನು ವಿವರಿಸಿ.
11. Explain the microtubules and microfilaments
ಮೈಕ್ರೋಟ್ಯುಬ್ಯೂಲ್ಸ ಮತ್ತು ಮೈಕ್ರೋಫಿಲಾಮೆಂಟ್ಸ ವಿವರಿಸಿ.
12. Explain the functions of mitochondria in detail.
ಮೈಟೋಕೊಂಡ್ರಿಯಾದ ಕಾರ್ಯಗಳನ್ನು ವಿವರವಾಗಿ ವಿವರಿಸಿ.

III. Answer any THREE of the following. (3×4=12)
ಕೆಳಗಿನ ಯಾವುದೇ ಮೂರು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

13. Write a note on cell-cell interaction.
ಕೋಶ-ಕೋಶಗಳ ನಡುವಿನ ಇಂಟರ್ಯಾಕ್ಷನ ಬಗ್ಗೆ ಬರೆಯಿರಿ.
14. Write the chemical structure of RNA
ಆರ್.ಎನ್.ಎ. ಯ ರಾಸಾಯನಿಕ ಚಿತ್ರ ಬರೆಯಿರಿ.
15. Describe the ultrastructure of chromosome.
ಕ್ರೋಮೋಸೋಮಿನ ಅಲ್ಟಾಸ್ಟಚ್ಚರ ಬಗ್ಗೆ ವಿವರಿಸಿ.
16. Explain Pro phase-I of Meiosis with neat labelled diagram.
ಸರಿಯಾಗಿ ಹೆಸರಿಸಿದ ರೇಖಾಚಿತ್ರದೊಂದಿಗೆ ಮಿಯಾಸಿಸ್-I ಅನ್ನು ವಿವರಿಸಿ.

IV. Answer any THREE of the following. (3×4=12)
ಕೆಳಗಿನ ಯಾವುದೇ ಮೂರು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

17. Explain Mendel's laws of inheritance.
ಮೆಂಡೆಲನ ಅನುವಂಶೀಯತೆಯ ಲಾ ಗಳನ್ನು ವಿವರಿಸಿ.
18. Explain environmental sex determination.
ಎನ್‌ವಿರೋನ್‌ಮೆಂಟ ಸೆಕ್ಸ ಗುರುತಿಸುವಿಕೆ ಬಗ್ಗೆ ವಿವರಿಸಿ.

19. Explain sex-linked inheritance in human.
ಮನುಷ್ಯನಲ್ಲಿ ಕಂಡು ಬರುವ ಲಿಂಗ ಆಧಾರಿತ ಅನುವಂಶೀಯತೆಯನ್ನು ವಿವರಿಸಿ.
20. What are multiple alleles? Explain.
ಮಲ್ಟಿಪಲ ಅಲೀಲ್ಸ ಎಂದರೇನು? ವಿವರಿಸಿ.

V. Answer any THREE of the following. **(3×4=12)**
ಕೆಳಗಿನ ಯಾವುದೇ ಮೂರು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.
21. Explain chromosomal aberrations.
ಕ್ರೋಮೋಸೋಮನ ಅಬರ್ರೇಶನ್ಸ ಬಗ್ಗೆ ವಿವರಿಸಿ.
22. Write a note on Human karyotyping.
ಮನುಷ್ಯನ ಕ್ಯಾರಿಯೋಟೈಪಿಂಗ ಬಗ್ಗೆ ಬರೆಯಿರಿ.
23. Explain the life cycle of trypanosoma and the disease it brings about.
ಟ್ರಿಪ್ಯಾನೋಸೋಮಾದ ಜೀವನ ಚಕ್ರದ ಬಗ್ಗೆ ಮತ್ತು ಅದರ ರೋಗದ ಬಗ್ಗೆ ಬರೆಯಿರಿ.
24. Enlist the diseases caused by Virus and the their control-measures.
ವೈರಸ್‌ದಿಂದ ಉಂಟಾಗುವ ರೋಗಗಳ ಕುರಿತು ಪಟ್ಟಿ ತಯಾರಿಸಿ ಅದರ ತಡೆಯುವಿಕೆ ಬಗ್ಗೆ ಬರೆಯಿರಿ.

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Reg. No. | | | | | | | | |

I Semester B.Sc. (SEP) Degree Examination, December/January - 2024-25

ZOOLOGY

Animal - Diversity

(Regular)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) **Answer All Questions.**
ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

2) **Draw Diagrams wherever necessary.**
ಅವಶ್ಯವಿದ್ದಲ್ಲಿ ಚಿತ್ರದೊಂದಿಗೆ ವಿವರಿಸಿ.

I. Answer any 10 (Ten) of the following. **(10×2=20)**
ಯಾವುದಾದರೂ ಹತ್ತು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ.

1. What is the basic unit of classifaction.
ವರ್ಗೀಕರಣದ ಮೂಲ ಯಾವುದು ಬರೆಯಿರಿ.

2. Define porifera-with examples.
ಪೋರಿಫಿರಾವನ್ನು ವ್ಯಾಖ್ಯಾನಿಸಿ ಉದಾಹರಣೆ ಕೊಡಿ.

3. Write the classification of Phylum coelenterate upto classes
ಫೈಲಮ್ ಕೋಲೆಂಟೆರಾಟಾ ವರ್ಗಗಳ ವರ್ಗೀಕರಣವನ್ನು ಬರೆಯಿರಿ.

4. What is Metamerism - Define.
ಮೆಟಾಮೇರಿಸ್ಮ ಎಂದರೇನು? ವ್ಯಾಖ್ಯಾನಿಸಿ.

5. Define water Vascular system with example.
ವಾಟರ್ ವಾಸ್ಕುಲಾರ ವ್ಯವಸ್ಥೆಯನ್ನು ಉದಾಹರಣೆಯೊಂದಿಗೆ ವ್ಯಾಖ್ಯಾನಿಸಿ.

6. What is Parasitism - Explain with examples.
ಪ್ಯಾರಾಸೈಟಿಸ್ಮನ್ನು ಉದಾಹರಣೆಯೊಂದಿಗೆ ವಿವರಿಸಿ.

|P.T.O.

7. Define Chordata and give salient Features of chordates.

ಕೋರ್ಡೇಟಾವನ್ನು ಮುಖ್ಯ ಗುಣಗಳೊಂದಿಗೆ ವ್ಯಾಖ್ಯಾನಿಸಿ.

8. Define migration and write the Fish-examples.

ಮೈಗ್ರೇಶನ್ ಎಂದರೇನು? ಮೀನಿನಲ್ಲಿ ಕಂಡುಬರುವ ಮೈಗ್ರೇಶನ್‌ನ್ನು ಉದಾಹರಿಸಿ.

9. What are caecilians - Give examples.

ಸೀಸಿಲಿಯನ್ಸ್ ಎಂದರೇನು? ಉದಾಹರಣೆ ಕೊಡಿ.

10. Write the salient features of Aves.

ಪಕ್ಷಿಗಳಲ್ಲಿನ ಮುಖ್ಯ ಗುಣಗಳನ್ನು ಬರೆಯಿರಿ.

11. What are Eutherians.

ಯುಥೀರಿಯನ್ಸ್ ಎಂದರೆ ಯಾವುವು.

12. What are Primates - Give Examples.

ಪ್ರೈಮೇಟ್ಸ ಎಂದರೆ ಯಾವುವು ಉದಾಹರಿಸಿ.

II. Answer any Three of the following. **(3×5=15)**

ಯಾವುದಾದರೂ **ಮೂರಕ್ಕೆ** ಉತ್ತರಿಸಿ.

13 Explain - 10 comotion in Protozoa.

ಪ್ರೋಟೋಜೋವಾದಲ್ಲಿನ ಚಲನ ವ್ಯವಸ್ಥೆಯನ್ನು ವಿವರಿಸಿ.

14. Write a note on parasitic adaptations of Nemathelminthes.

ನೆಮಥೆಲ್ಮಿಂಥೆಸ್ ಪ್ಯಾರಾಸೈಟಿಕ್ ಅಡಾಪ್ಟೇಷನ್ನು ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

15. Explain the canal system in sycon.

ಸೈಕೋನದಲ್ಲಿ ಕೆನಾಲ ವ್ಯವಸ್ಥೆಯನ್ನು ವಿವರಿಸಿ.

16. Explain polymorphism in coelenterates.

ಕೋಲೆಂಟರೇಟ್ಸ್ ಪೊಲಿಮೊರಫಿಸ್ಮ ವಿವರಿಸಿ.

III. Answer any Three of the following. **(3×5=15)**

ಯಾವುದಾದರೂ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿ.

17. Give the general characters and classification of Phy-Annelida

ಅನ್ನೆಲಿಡಾದಲ್ಲಿನ ಸಾಮಾನ್ಯ ಲಕ್ಷಣಗಳನ್ನು ಬರೆದು ವರ್ಗದವರೆಗೆ ವರ್ಣಿಕರಿಸಿ.

18. Write a Note on Metamorphosis in Insects.

ಕೀಟಗಳಲ್ಲಿನ ರೂಪ ಪರಿವರ್ತನೆ ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

19. Explain the water-Vascular system in Asteroidea.

ಆಸ್ಟೇರೊಮಿಡಿಯಾದ ವಾಟರ್ ವ್ಹಾಸ್ಕುಲರ್ ವ್ಯವಸ್ಥೆ ಕುರಿತು ವಿವರಿಸಿ.

20. Write the General characters of Phylum Molluscar-and classify upto classes with two examples.

ಫೈಲಮ್ ವೃದ್ವಂಗಿಗಳ ಸಾಮಾನ್ಯ ಗುಣಗಳನ್ನು ಬರೆದು – ಲಿಪಿಗಳನ್ನು ವರ್ಗದವರೆಗೆ ವರ್ಗಿಕರಿಸಿ ಎರಡು ಉದಾಹರಣೆ ಕೊಡಿರಿ.

IV. Answer any Three of the following. **(3×5=15)**

ಯಾವುದಾದರೂ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿ.

21. Write the comparative account of chordates and Non-chordates with suitable examples.

ಕೊರ್ಡೆಟ ಮತ್ತು ನಾನ ಕೋರ್ಡೆಟಗಳ ತುಲನಾತ್ಮಕ ವಿವರಣೆ ಕೊಡಿರಿ ಉದಾಹರಣೆಯೊಂದಿಗೆ.

22. Write a note on Migration in Fishes.

ಮೀನುಗಳಲ್ಲಿನ ಮೈಗ್ರೇಶನ ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

23. Write the General characters of class-reptilia and classify upto living orders with suitable examples.

ಸರೀಸೃಪಗಳ ಸಾಮಾನ್ಯ ಗುಣಗಳನ್ನು ಬರೆದು ಜೀವಂತ ಆರ್ಡರ್‌ಗಳವರೆಗೆ ವರ್ಗಿಕರಿಸಿ ಉದಾಹರಣೆ ಕೊಡಿರಿ.

24. Write a note on Parental care in Amphibia.

ಉಭಯಜೀವಿಗಳಲ್ಲಿ ಪೇರೆಂಟಲ ಕೇರ ಬಗ್ಗೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

V. Answer any Three of the following. **(3×5=15)**

ಯಾವುದಾದರೂ **ಮೂರಕ್ಕೆ** ಉತ್ತರಿಸಿ.

25. Write the General Characters of class. Aves and give 4 Characters of any 4 - orders with examples.

ಹಕ್ಕಿಗಳಲ್ಲಿನ ಸಾಮಾನ್ಯ ಗುಣಧರ್ಮಗಳನ್ನು ಬರೆದು ಯಾವುದಾದರೂ 4 ಅರ್ಡರ್‌ಗಳು ನಾಲ್ಕು ಗುಣಲಕ್ಷಣಗಳು ಮತ್ತು ಎರಡು ಉದಾಹರಣೆ.

26. Write a note on Monotremes.

ಮೋನೋಟ್ರೀಮ್ಸಗಳ ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

27. Write a note on Ear-Ossides in mammals.

ಸಸ್ತನಿಗಳಲ್ಲಿನ ಕಿವಿಯ ಅಸಕಲ್ಸಿ ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

28. Write Four important features and two examples of the following.

ನಾಲ್ಕು ಪ್ರಮುಖ ವೈಶಿಷ್ಟ್ಯಗಳನ್ನು ಮತ್ತು ಕೆಳಗಿನ ಎರಡು ಉದಾಹರಣೆಗಳನ್ನು ಬರೆಯಿರಿ.

a) Passeriformes

ಪಾಸೆರಿಫಾರ್ಮ್ಸ್

b) Fisciformes

ಫಿಸ್ಸಿಫಾರ್ಮ್ಸ್

c) Insectivora

ಕೀಟನಾಶಕ

d) Primates

ಸಸ್ತನಿಗಳು

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Reg. No. | | | | | | | | | |

I Semester B.Sc. (SEP) Degree Examination, December/January - 2024-25

ZOOLOGY

Animal - Diversity

(Regular)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) **Answer All Questions.**
ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

2) **Draw Diagrams wherever necessary.**
ಅವಶ್ಯವಿದ್ದಲ್ಲಿ ಚಿತ್ರದೊಂದಿಗೆ ವಿವರಿಸಿ.

I. Answer any 10 (Ten) of the following. **(10×2=20)**
ಯಾವುದಾದರೂ ಹತ್ತು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ.

1. What is the basic unit of classifaction.
ವರ್ಗೀಕರಣದ ಮೂಲ ಯಾವುದು ಬರೆಯಿರಿ.

2. Define porifera-with examples.
ಪೋರಿಫಿರಾವನ್ನು ವ್ಯಾಖ್ಯಾನಿಸಿ ಉದಾಹರಣೆ ಕೊಡಿ.

3. Write the classification of Phylum coelenterate upto classes
ಫೈಲಮ್ ಕೋಲೆಂಟೆರಾಟಾ ವರ್ಗಗಳ ವರ್ಗೀಕರಣವನ್ನು ಬರೆಯಿರಿ.

4. What is Metamerism - Define.
ಮೆಟಾಮೇರಿಸ್ಮ ಎಂದರೇನು? ವ್ಯಾಖ್ಯಾನಿಸಿ.

5. Define water Vascular system with example.
ವಾಟರ್ ವಾಸ್ಕುಲಾರ ವ್ಯವಸ್ಥೆಯನ್ನು ಉದಾಹರಣೆಯೊಂದಿಗೆ ವ್ಯಾಖ್ಯಾನಿಸಿ.

6. What is Parasitism - Explain with examples.
ಪ್ಯಾರಾಸೈಟಿಸ್ಮನ್ನು ಉದಾಹರಣೆಯೊಂದಿಗೆ ವಿವರಿಸಿ.

|P.T.O.

7. Define Chordata and give salient Features of chordates.

ಕೋರ್ಡೇಟಾವನ್ನು ಮುಖ್ಯ ಗುಣಗಳೊಂದಿಗೆ ವ್ಯಾಖ್ಯಾನಿಸಿ.

8. Define migration and write the Fish-examples.

ಮೈಗ್ರೇಶನ್ ಎಂದರೇನು? ಮೀನಿನಲ್ಲಿ ಕಂಡುಬರುವ ಮೈಗ್ರೇಶನ್‌ನ್ನು ಉದಾಹರಿಸಿ.

9. What are caecilians - Give examples.

ಸೀಸಿಲಿಯನ್ಸ್ ಎಂದರೇನು? ಉದಾಹರಣೆ ಕೊಡಿ.

10. Write the salient features of Aves.

ಪಕ್ಷಿಗಳಲ್ಲಿನ ಮುಖ್ಯ ಗುಣಗಳನ್ನು ಬರೆಯಿರಿ.

11. What are Eutherians.

ಯುಥೀರಿಯನ್ಸ್ ಎಂದರೆ ಯಾವುವು.

12. What are Primates - Give Examples.

ಪ್ರೈಮೇಟ್ಸ ಎಂದರೆ ಯಾವುವು ಉದಾಹರಿಸಿ.

II. Answer any Three of the following. **(3×5=15)**

ಯಾವುದಾದರೂ **ಮೂರಕ್ಕೆ** ಉತ್ತರಿಸಿ.

13 Explain - 10 comotion in Protozoa.

ಪ್ರೋಟೋಜೋವಾದಲ್ಲಿನ ಚಲನ ವ್ಯವಸ್ಥೆಯನ್ನು ವಿವರಿಸಿ.

14. Write a note on parasitic adaptations of Nemathelminthes.

ನೆಮಥೆಲ್ಮಿಂಥೆಸ್ ಪ್ಯಾರಾಸೈಟಿಕ್ ಅಡಾಪ್ಟೇಷನ್ನು ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

15. Explain the canal system in sycon.

ಸೈಕೋನದಲ್ಲಿ ಕೆನಾಲ ವ್ಯವಸ್ಥೆಯನ್ನು ವಿವರಿಸಿ.

16. Explain polymorphism in coelenterates.

ಕೋಲೆಂಟರೇಟ್ಸ್ ಪೊಲಿಮೊರಫಿಸ್ಮ ವಿವರಿಸಿ.

III. Answer any Three of the following. **(3×5=15)**

ಯಾವುದಾದರೂ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿ.

17. Give the general characters and classification of Phy-Annelida

ಅನ್ನೆಲಿಡಾದಲ್ಲಿನ ಸಾಮಾನ್ಯ ಲಕ್ಷಣಗಳನ್ನು ಬರೆದು ವರ್ಗದವರೆಗೆ ವರ್ಣಿಕರಿಸಿ.

18. Write a Note on Metamorphosis in Insects.

ಕೀಟಗಳಲ್ಲಿನ ರೂಪ ಪರಿವರ್ತನೆ ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

19. Explain the water-Vascular system in Asteroidea.

ಅಸ್ಟೇರೊಮಿಡಿಯಾದ ವಾಟರ್ ವ್ಹಾಸ್ಕುರ್ಲಾ ವ್ಯವಸ್ಥೆ ಕುರಿತು ವಿವರಿಸಿ.

20. Write the General characters of Phylum Molluscar-and classify upto classes with two examples.

ಫೈಲಮ್ ವೃದ್ವಂಗಿಗಳ ಸಾಮಾನ್ಯ ಗುಣಗಳನ್ನು ಬರೆದು – ಲಿಪಿಗಳನ್ನು ವರ್ಗದವರೆಗೆ ವರ್ಗಿಕರಿಸಿ ಎರಡು ಉದಾಹರಣೆ ಕೊಡಿರಿ.

IV. Answer any Three of the following. **(3×5=15)**

ಯಾವುದಾದರೂ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿ.

21. Write the comparative account of chordates and Non-chordates with suitable examples.

ಕೊರ್ಡೆಟ ಮತ್ತು ನಾನ ಕೋರ್ಡೆಟಗಳ ತುಲನಾತ್ಮಕ ವಿವರಣೆ ಕೊಡಿರಿ ಉದಾಹರಣೆಯೊಂದಿಗೆ.

22. Write a note on Migration in Fishes.

ಮೀನುಗಳಲ್ಲಿನ ಮೈಗ್ರೇಶನ ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

23. Write the General characters of class-reptilia and classify upto living orders with suitable examples.

ಸರೀಸೃಪಗಳ ಸಾಮಾನ್ಯ ಗುಣಗಳನ್ನು ಬರೆದು ಜೀವಂತ ಆರ್ಡರ್‌ಗಳವರೆಗೆ ವರ್ಗಿಕರಿಸಿ ಉದಾಹರಣೆ ಕೊಡಿರಿ.

24. Write a note on Parental care in Amphibia.

ಉಭಯಜೀವಿಗಳಲ್ಲಿ ಪೇರೆಂಟಲ ಕೇರ ಬಗ್ಗೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

V. Answer any Three of the following. **(3×5=15)**

ಯಾವುದಾದರೂ **ಮೂರಕ್ಕೆ** ಉತ್ತರಿಸಿ.

25. Write the General Characters of class. Aves and give 4 Characters of any 4 - orders with examples.

ಹಕ್ಕಿಗಳಲ್ಲಿನ ಸಾಮಾನ್ಯ ಗುಣಧರ್ಮಗಳನ್ನು ಬರೆದು ಯಾವುದಾದರೂ 4 ಅರ್ಡರ್‌ಗಳು ನಾಲ್ಕು ಗುಣಲಕ್ಷಣಗಳು ಮತ್ತು ಎರಡು ಉದಾಹರಣೆ.

26. Write a note on Monotremes.

ಮೋನೋಟ್ರೀಮ್ಸಗಳ ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

27. Write a note on Ear-Ossides in mammals.

ಸಸ್ತನಿಗಳಲ್ಲಿನ ಕಿವಿಯ ಆಸಕಲ್ಲಿ ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

28. Write Four important features and two examples of the following.

ನಾಲ್ಕು ಪ್ರಮುಖ ವೈಶಿಷ್ಟ್ಯಗಳನ್ನು ಮತ್ತು ಕೆಳಗಿನ ಎರಡು ಉದಾಹರಣೆಗಳನ್ನು ಬರೆಯಿರಿ.

a) Passeriformes

ಪಾಸೆರಿಫಾರ್ಮ್ಸ್

b) Fisciformes

ಫಿಸ್ಸಿಫಾರ್ಮ್ಸ್

c) Insectivora

ಕೀಟನಾಶಕ

d) Primates

ಸಸ್ತನಿಗಳು

19027/A5270

Reg. No. | | | | | | | | | |

I Semester B.Sc. (NEP) Degree Examination March/April - 2024

ZOOLOGY

Economic Zoology

Paper - OEC

(Repeater/Regular)

Time : 2 Hours **Maximum Marks : 60**

Instructions to Candidates:

1) **Draw diagram wherever necessary.**
ಅವಶ್ಯವಿದ್ದಲ್ಲಿ ಚಿತ್ರ ಬರೆಯಿರಿ.

2) **Answer All Questions.**
ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.

I. Answer any SIX of the following. **(6×2=12)**
ಬೇಕಾದ ಆರಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.

1. Define Apiculture.
ಎಪಿಕಲ್ಚರ್ ಎಂದರೇನು ? ವ್ಯಾಖ್ಯಾನಿಸಿ.
2. What is aquaculture ?
ಅಕ್ವಾಕಲ್ಚರ ಎಂದರೇನು ?
3. Name the types of earthworms engaged in vermiculture.
ಎರೆಹುಳುವಿನ ವಿಧ ವಿಧ ತಳಿಗಳನ್ನು ಹೆಸರಿಸಿ.
4. Write the different diary breeds of Low.
ಎರಡು ಆಕಳುಗಳ (ಡೈರಿ)ನ್ನು ಹೆಸರಿಸಿ.
5. What are the different methods of Prawn preservation ?
ಸೀಗಡಿ ಮೀನಿನ ಸಂರಕ್ಷಣಾ ವಿಧಗಳನ್ನು ತಿಳಿಸಿರಿ.
6. What is mulberry silk ?
ಮಲಬರಿ ರೇಷ್ಮೆ ಅಂದರೇನು ?
7. Name the two proteins of the silk secreted by silkworm.
ರೇಷ್ಮೆಹುಳುವಿನ ಎರಡು ಪ್ರೋಟಿನಗಳನ್ನು ಹೆಸರಿಸಿ.
8. Write the composition of lac.
ಲ್ಯಾಕನ ಸಂಯುಕ್ತಗಳನ್ನು ಬರೆಯಿರಿ.

[P.T.O.

II. Answer any THREE of the following. (3×4=12)

ಬೇಕಾದ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.

9. Write a note on silkworm diseases and its control measures.
ರೇಷ್ಮೆಹುಳುವಿನಲ್ಲಿ ಕಂಡುಬರುವ ರೋಗಗಳನ್ನು ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.
10. What is the chemical composition of honey ? Write the uses of honey.
ಜೇನುತುಪ್ಪದ ರಾಸಾಯನಿಕ ಸಂಯುಕ್ತಗಳನ್ನು ಬರೆಯಿರಿ. ಹಾಗೂ ಜೇನು ತುಪ್ಪದ ಉಪಯೋಗಗಳನ್ನು ಕುರಿತು ಬರೆಯಿರಿ.
11. Write a note on silkworm industry in India.
ಭಾರತದಲ್ಲಿ ರೇಷ್ಮೆ ಕೃಷಿಯ ಬಗ್ಗೆ ಬರೆಯಿರಿ.
12. What is moriculture describe ?
ಮಾರಿಕಲ್ಚರ ಎಂದರೇನು ವಿವರಿಸಿ?

III. Answer any THREE of the following. (3×4=12)

ಬೇಕಾದ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿರಿ .

13. What are exotic breeds of poultry? Explain.
ಕೋಳಿ ಸಾಕಾಣಿಕೆಯಲ್ಲಿ ಎಕ್ಸೋಟಿಕ ಬ್ರೀಡ್ಸ ಎಂದರೇನು ? ವಿವರಿಸಿ.
14. What are the sites of pearl culture in India ? Add a note on scope of pearl culture in India.
ಭಾರತದಲ್ಲಿ ಮುತ್ತು ಕೃಷಿಯ ತಾಣಗಳು ಯಾವುವು ? ಭಾರತದಲ್ಲಿ ಮುತ್ತು ಕೃಷಿಯ ವ್ಯಾಪ್ತಿಯ ಬಗ್ಗೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.
15. Write a note on-ornamental fishery and the scope in India.
ಆರನಾಮೆಂಟಲ ಫಿಷರಿ ಬಗ್ಗೆ ಬರೆಯಿರಿ. ಮತ್ತು ಅದರ ವಿಳ್ಗೆಯ ಬಗ್ಗೆ ಬರೆಯಿರಿ.
16. Write the diseases of poultry and write the control measures.
ಕೋಳಿ ಸಾಕಾಣಿಕೆಯಲ್ಲಿನ ರೋಗಗಳ ಕುರಿತು ಬರೆಯಿರಿ. ಮತ್ತು ಅದರ control ಬಗ್ಗೆ ಬರೆಯಿರಿ.

IV. Answer any THREE of the following. (3×4=12)

ಬೇಕಾದ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.

17. Explain breeding techniques in Fishculture.
ಮೀನು ಸಾಕಾಣಿಕೆಯಲ್ಲಿ ಬ್ರೀಡಿಂಗ ಟೆಕ್ನಿಕಗಳನ್ನು ವಿವರಿಸಿ.
18. Write on prawn culture, processing and preservation.
ಸೀಗಡಿ ಮೀನಿನ ಕೃಷಿ ಸಂಸ್ಕರಣೆ ಮತ್ತು ಸಂರಕ್ಷಣೆ ಬಗ್ಗೆ ಬರೆಯಿರಿ.

19. Write on commercial exploitatism of prawn in India and the scope of prawn culture.

ಭಾರತದಲ್ಲಿ ಸಿಗಡಿಗಳ ವಾಣಿಜ್ಯ ಶೋಷಣೆ ಮತ್ತು ಸಿಗಡಿ ಕೃಷಿಯ ವ್ಯಾಪ್ತಿಯ ಬಗ್ಗೆ ಬರೆಯಿರಿ.

20. Explain scope of ornamental fish culture in India.

ಭಾರತದಲ್ಲಿ ಅಲಂಕಾರಿಕ ಮೀನು ಕೃಷಿಯ ವ್ಯಾಪ್ತಿಯನ್ನು ವಿವರಿಸಿ.

V. Answer any THREE of the following. **(3×4=12)**

ಬೇಕಾದ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.

21. What is vermiculture ? Explain.

ವರ್ಮಿಕಲ್ಚರ ಎಂದರೇನು ? ವಿವರಿಸಿ.

22. Explain the life cycle of Lac insect.

ಲ್ಯಾಕ ಕೀಟದ ಜೀವನ ಚಕ್ರವನ್ನು ಕುರಿತು ವಿವರಿಸಿ.

23. What are the sps-suitable for vermicomposting.

ವರ್ಮಿಕಾಂಪೋಸ್ಟನಲ್ಲಿರುವ ವಿವಿಧ ತಳಿಗಳ ಕುರಿತು ಬರೆಯಿರಿ.

24. Current on the Lac-cultivation methods.

ಲ್ಯಾಕ ಕೀಟ ಸಾಗುವಳಿ ಕುರಿತು ಬರೆಯಿರಿ.

QP CODE: 19023

Reg. No. | | | | | | | | |

First Semester B.Sc., 6 (NEP) Degree Examinations

JANUARY/FEBRUARY 2025

MATHEMATICS

SCIENCE STREAM STUDENTS (OEC) 21BSC101 (REPEATER)

PAPER – A 5230 : MATHEMATICS – I

Time: 2 Hours Max. Marks : 60

Instructions to Candidates:

1. Answer any SIX questions from Q.No. 1
2. Answer any FOUR questions from Q.No. 2, 3, 4.

PART – A

1. Answer any SIX of the following questions: **6 × 2 = 12**

a) Find the rank of a matrix $\begin{bmatrix} 3 & 0 & 6 \\ 2 & 1 & -3 \\ 4 & 0 & 8 \end{bmatrix}$

b) Define elementary row transformation of a matrix.

c) Define : i) Symmetric determinant
ii) Skew symmetric determinant
iii) Reciprocal determinant

d) Discuss the continuity of the function $f(x) = \begin{cases} 5-x & x \le 2 \\ 2x-1 & x > 2 \end{cases}$ at $x = 2$

e) For any real number $a > 0$ prove that $a + \frac{1}{a} \ge 2$

f) State Rolle's theorem

g) State Borel covering lemma

h) Evaluate $\lim_{x \to \frac{1}{2}} \left[\frac{\cos^2 \pi x}{e^{2x} - 2ex} \right]$

i) Find the n^{th} derivative of $\frac{2x-1}{(x-2)(x+1)}$

j) If $y = \sin(ax+b)$ then find y_n

PART – B

2. Answer any FOUR questions of the following: **4 × 4 = 16**

a) Prove that the rank of the matrix remains unaltered when rows and columns are interchanged.

b) Find the rank of the matrix $\begin{bmatrix} 1 & 0 & -1 \\ 3 & 4 & 5 \\ 0 & -6 & -7 \end{bmatrix}$

c) Solve the system of equations by E – transformation
$2x+3y-4z=2,\ x-y+3z=4,\ 3x+2y-2z=-5$

d) State Cayley – Hamilton theorem and hence find the inverse of $\begin{bmatrix} 2 & -1 \\ -1 & 2 \end{bmatrix}$

e) Find the inverse of the matrix $A=\begin{bmatrix} 2 & 3 & 1 \\ 1 & 2 & 3 \\ 3 & 1 & 2 \end{bmatrix}$ by elementary transformations.

PART – C

3. Answer any FOUR questions of the following: **4 × 4 = 16**

a) If $\lim_{x\to a} f(x)=l$ and $\lim_{x\to a} g(x)=m$ then prove that $\lim_{x\to a}\frac{f(x)}{g(x)}=\frac{l}{m}$

b) State and prove Lagrange's mean value theorem.

c) State and prove Archimedian property of real numbers.

d) Discuss the continuity of $f(x)=\begin{cases}\frac{\sin x}{x}+\cos x & x\neq 0 \\ 2 & x=0\end{cases}$ at $x=0$

e) For what value of a does $\frac{\sin 2x+a\sin x}{x^3}$ tends to a finite limit as $x\to 0$ and what is l.

PART – D

4. Answer any FOUR questions of the following: **4 × 4 = 16**

a) Find the n^{th} derivative of $\frac{1}{6x^2-5x+1}$

b) If $y=e^{5x}\sin 2x\cos 3x$ find the n^{th} derivative of Y

c) If $x=\sin t,\ y=\cos pt$ then prove that $(1-x^2)y_{n+2}-(2n+1)xy_{n+1}+(p^2-n^2)y_n=0$

d) State and prove Taylor's theorem with Schlomilch – Rouche's form of remainder

e) Find the n^{th} derivative of $\frac{4x}{(x-1)^2(x+1)}$

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QP CODE: 47032

Reg. No. | | | | | | | | | |

First Semester B.Sc.6 (NEP) Degree Examination,
January / February 2025
PHYSICS (DSC)
(Repeaters)
A0320 / A030320 : Mechanics and Properties of Matter

Time: 2 Hours Max. Marks : 60

Instructions:

1. Calculators can be used to calculate problems.
2. Write intermediate steps during problems.

1. Answer any SIX of the following questions: (6 × 2 = 12)

a) What is elastic collision ?

b) Define angular momentum.

c) State Newton's law of Gravitation.

d) Define orbital velocity.

e) What is Neutral axis?

f) Define stress

g) Define Angle of contact.

h) Mention the difference between stream line and turbulent flow.

2. Answer any ONE full question "a and b" OR "c and d"

a) Discuss inelastic collisions between two particles which stick together in

i) Laboratory frame of reference

ii) Centre of mass frame of reference. (8)

b) A sand bag of mass 10 kg is suspended with long weightless string. A bullet of mass 0.2 kg is fired with a speed of 20 ms^{-1} in to the bag and stays in the bag. Calculate speed acquire by the bag. (4)

OR

c) What is Rocket and Derive an expression for the final velocity of single stage Rocket. (8)

d) A mass of 5 kg at rest explodes in to 2 pieces of 2 kg and 3 kg. If 2 kg piece is moving with velocity of 10 ms^{-1}, calculate the velocity of 3 kg piece. (4)

3. **Answer any ONE full question "a and b" OR "c and d" :**

a) State Kepler's II law of planetary motion on the basis of law of conservation of Angular momentum prove Kepler's II law. (8)

b) A satellite is orbiting around the earth at a height of 200 km radius and mass of earth are 6400 km and 6×10^{24} kg respectively. Calculate orbital velocity and period of satellite having mass 400 kg (Given $G = 6.67 \times 10^{-11} Nm^2 / kg^2$.) (4)

OR

c) Derive an expression for moment of inertia of rectangular lamina about an axis through its centre and parallel to one side. (8)

d) A circular disc of mass 0.5 kg and radius 0.1m is revolving at the rate of 60 rpm about an axis passing through its centre and it is perpendicular to its plane. Calculate its moment of inertia and kinetic energy. (4)

4. **Answer any ONE full question "a and b" OR "c and d" :**

a) Derive an expression for bending moment of a beam. (8)

b) Calculate Young's modulus of the material if the rigidity modulus is 4.2×10^{10} Nm^{-2} and bulk modulus is 1.4×10^{10} Nm^{-2} (4)

OR

c) Obtain the expression for couple per unit twist of the wire fixed at one end and twisted by a couple at free end. (8)

d) A bar of geometrical moment of inertia 2×10^{-3} kg m^2 is bent into an arc of radius 2m. Calculate bending moment of the bar. The value of Young's Modulus of elasticity of material of the bar is 12×10^{10} Nm^{-2} (4)

5. **Answer any ONE full question "a and b" OR "c and d" :**

a) Derive an expression for rise of liquid in capillary tube. (8)

b) Find the excess of pressure inside a spherical drop of water of radius 1 mm. Surface tension of water $= 73 \times 10^{-3}$ N/m (4)

OR

c) Derive Stoke's formula and terminal velocity of lead ball falling down through viscous liquid. (8)

d) Calculate viscosity of given liquid when a steel ball of radius 5×10^{-4} m falls through it with terminal velocity 30 ms^{-1} $\rho = 7.8 \times 10^3$ kg m^{-3}, $\sigma = 0.87 \times 10^3$ kg m^{-3}. (4)

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613868 Reg. No. | | | | | | | | |

I Semester B.Sc.7 (SEP) Degree Examination, December/January - 2024-25

MATHEMATICS

Algebra - I and Calculus - I

(Regular)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates :

1. Question paper contains Three parts *viz* A, B, C.
2. Answer all questions.

PART - A

I. Answer any TEN of the following **(10×2=20)**

1. a) Define elementary transformation of a matrix.

b) Find the rank of a matrix $\begin{bmatrix} 1 & 2 & 3 \\ 2 & 4 & 6 \\ 3 & 2 & 1 \end{bmatrix}$

c) Find the eigen values of a matrix $\begin{bmatrix} 1 & 2 \\ 4 & 3 \end{bmatrix}$

d) State the low of trichotomy and low of multiplication.

e) For any a>0 prove that $a+\frac{1}{a} \geq 2$.

f) State intermediate value theorem.

g) Find the n^{th} derivative of $log(ax+b)$.

h) Find the n^{th} derivative of $cos^2 x$.

i) If $y = \frac{1}{x^2-1}$ then find y_n.

j) State Rolle's Theorem.

k) Find 'c' of Lagrange's mean value theorem if $f(x) = x(x-1)$ in $[0,2]$.

l) Expand e^{-x} by using Maclaurin's theorem.

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PART - B

II. Answer any FOUR of the following. **(4×5=20)**

2. Verify cayley Hamilton theorem for the matrix $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$

3. Prove that the rank of a matrix is unaltered by multiplying the elements of a row by a non-zero number.

4. If $\lim_{x \to a} f(x) = l$ and $\lim_{x \to a} g(x) = m$ then prove that $\lim_{x \to a} [f(x) + g(x)] = l + m$.

5. State and prove Archimedean property of real numbers.

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

7. State and prove Lagrange's mean value theorem.

PART - C

III. Answer any FOUR of the following. **(4×10=40)**

8. a) Reduce the matrix $\begin{bmatrix} 1 & 2 & 0 & -1 \\ 3 & 4 & 1 & 2 \\ -2 & 3 & 2 & 5 \end{bmatrix}$ to normal form and hence find it's rank.

   b) Show that the system of equations $x+y+z=4$, $2x-y-z=-1$, $x-y+3z=6$ is consistent and solve.

9. a) Prove that the continuous function in a closed interval is bounded in that interval.

   b) Discuss the continuity of $f(x) = \begin{cases} 3x-2 & for \quad x \le 1 \\ 2x-1 & for \quad x > 1 \end{cases}$ at $x=1$

10. a) State and prove Leibnitz's theorem for n^{th} derivative of product of two functions.

    b) If $y = e^{m \cos^{-1} x}$ then prove that $(1-x^2)\, y_{n+2} - (2n+1)\, x y_{n+1} - (n^2+m^2) y_n = 0$.

11. a) Find the n^{th} derivative of $\sin x . \sin 2x . \sin 3x$.

    b) Verify cauchy's mean value theorem for the function $f(x) = e^x$ and $g(x) = e^{-x}$ in [a,b].

12. a) State and prove Taylor's theorem with schlomilch and Roche's form of remainder.

    b) Expand '$\tan^{-1} x$' by Machlaurin's theorem upto the power containing x^5.

Q. P. Code: 126BSC03LANAEC17T

Reg No | | | | | | | | | | | |

B.Sc III Semester (NEP Regular) Examination, Feb/March-2025

Subject: 1) एकांकी कलश
2) संचार माध्यम और हिन्दी

Duration of Paper: 2 Hrs. **Maximum Marks :60**

Instruction to the Candidate:

I **किन्हीं दस प्रश्नों के सही उत्तर लिखिए।** (10x1=10

1) 'रीढ़ की हड्डी' की नायिका का नाम_____है।

अ) उमा ब) जमना क) रेवा

2) 'समरेखा-विषमरेखा' एकांकी के एकांकीकार_____हैं।

अ) भुवनेश्वर ब) विष्णु प्रभाकर क) मोहन राकेश

3) रेवा_____एकांकी का पात्र है।

अ) जान से प्यारे ब) समरेखा-विषमरेखा क) रीढ़ की हड्डी

4) भुवनेश्वर का जन्म सन् _____ में हुआ था।

अ) 1910 ब) 1911 क) 1912

5) 'मार्तंड'_____एकांकी का पात्र है।

अ) दो कलाकार ब) जान से प्यारे क) रीढ़ की हड्डी

6) ममता कालिया का जन्म_____में हुआ था।

अ) वृंदावन ब) दिल्ली क) मुंबई

7) डॉ. कौशिक_____एकांकी का पात्र है।

अ) जान से प्यारे ब) दो कलाकार क) अधिकार का रक्षक

8) 'दो कलाकार' एकांकी के एकांकीकार_____हैं।

अ) भगवतीचरण वर्मा ब) भुवनेश्वर क) ममता कालिया

9) जगदीशचंद्र माथुर का जन्म सन् _____ में हुआ था।

अ) 1915 ब) 1916 क) 1917

10) 'अधिकार का रक्षक' एकांकी के रचेता_____हैं।

अ) ममता कालिया ब) जगदीशचंद्र माथुर क) भुवनेश्वर

11) हिन्दी का पहला समाचार पत्र_____माना जाता है।

अ) हंस ब) उदंत मार्तंड क) माधुरी

12) प्रिंटिंग प्रेस का आविष्कार सन् _____ में हुआ था।

अ) 1440 ब) 1445 क) 1450

II किन्हीं तीन का ससन्दर्भ स्पष्टीकरण कीजिए। **(3x5=15)**

1) "आपने मेरे साथ दगा किया। आपकी लड़की बी.ए. पास है, और आपने मुझको कहा था कि सिर्फ मैट्रिक तक पढ़ी है।"

2) "मैं विवाहिता हूँ और विवाहिता क्या होती है, यह तुम्हें बताने की जरूरत नहीं है।"

3) "और अगर हम इस मकान से गए तो परमानन्द पुराण को हम बुलाकी पुराण बना देंगे।"

4) "मैंने एक ऐसा मिक्सचर तैयार किया है, जिससे मरा हुआ इन्सान जी सकता है।"

5) "सच है बाबूजी, गरीब लाख ईमानदार हो तो भी चोर है, डाकू है।"

III किन्हीं दो प्रश्नों के उत्तर लिखिए। **(2x10=20)**

1) 'अधिकार का रक्षक' एकांकी का सार अपने शब्दों में लिखिए।

2) 'समरेखा-विषमरेखा' एकांकी का विश्लेषण कीजिए।

3) 'रीढ़ की हड्डी' एकांकी के कथानक को स्पष्ट कीजिए।

4) 'जान से प्यारे' एकांकी का तात्विक विश्लेषण कीजिए।

IV किसी एक प्रश्न का उत्तर लिखिए। **(1x10=10)**

1) संचार माध्यमों के विकास में एलेक्ट्रॉनिक माध्यम के महत्व को स्पष्ट कीजिए।

2) संचार माध्यम के विकास में हिन्दी भाषा के योगदान को स्पष्ट कीजिए।

V किसी एक पर टिप्पणी लिखिए। **(1x5=05)**

1) मुद्रित माध्यम

2) इंटरनेट

Q. P. Code: 126BSC03MATDSC03T

Reg No

B.Sc. III Semester (NEP) Examination, Feb/March-2025
Subject: Mathematics
Paper: Ordinary Differential Equations and Real Analysis-I (Regular)

Duration of Paper: 2 Hrs. **Maximum Marks :60**

Instruction to the Candidate: 1) Answer any six questions from questions number 1.
2) Answer any three questions from questions number 2,3,4 and 5.

Q.No.1. Answer any six of the following. **(2x6=12)**

a. Solve $(x^2-ay)dx = (ax - y^2)dy$.
b. Solve $p^2+p=6$.
c. Solve $d^2y/dx^2 - 3\, dy/dx - 4y = 0$
d. Find the complementary function of $(D^2-3D+2)y=e^{5x}$
e. Define Oscillatory sequence, give an example.
f. State Cauchy's first theorem on limits.
g. By using D'Alembert's ratio test discuss the convergence of $1+x+x^2/2! + x^3/3! +$ -------
h. State Cauchy's root test.

Q.NO.2. Answer any Three of the following. **(3x4=12)**

a. State and prove necessary condition for a differential equation $Mdx+Ndy=0$ to be exact.
b. Solve $(x^2y-2xy^2)dx-(x^3-3x^2y)dy=0$.
c. Solve $p^3+3xp^2-y^3p^2-3xy^3p=0$.
d. Solve $y^2 \log y=xpy+p^2$.

Q. No.3. Answer any Three of the following. **(3x4=12)**

a. Solve $d^3y/dx^3+3d^2y/dx^2+2dy/dx=x^2$.
b. With usual notation prove that $(1/f(D))\, e^{ax}.v=e^{ax}(1/f(D+a)).V$, where v is a function of x.
c. Solve: $d^2y/dx^2 - 3dy/dx - 4y=\cos 2x$.
d. Derive the condition for the integrability of the equation $Pdx+Qdy+Rdz=0$. Where P,Q,R are functions of x,y,z.

Q.NO.4. Answer any Three of the following. **(3x4=12)**

a) Show that a monotonic decreasing sequence & bounded below is convergent.
b) Show that the sequence $\{a_n\}$ where $a_n = 1+\frac{1}{1!}+\frac{1}{2!}+\frac{1}{3!}+$ ----------- $\frac{1}{n!}$ is convergent.
c) State and prove Cauchy's general principle for convergence of sequence.
d) Find the limit superior and limit inferior of the sequence $\{x_n\}$, where $x_n = (1+\frac{1}{n})^{n+1}$

Q.No.5. Answer any three of the following **(3x4=12)**

a) Let $\sum u_n$ and $\sum v_n$ be two series of positive terms, and $\lim_{n\to\infty}\frac{un}{vn}$ be finite nonzero quantity then prove that $\sum u_n$ and $\sum v_n$ both converges or diverges together.
b) Test the convergence of $1+\frac{2!}{2}+\frac{3!}{3}+\frac{4!}{4}$ ---------------
c) State and prove Leibnitz's theorem on alternating series.
d) Discuss the convergence of $1+\frac{1}{2}+\frac{1.3}{2.4}+\frac{1.3.5}{2.4.6}+$ -------------

Q. P. Code:126BSC03CHEDSC03T

Reg No | | | | | | | | | | | |

B.Sc III Semester (NEP Regular) Examination, Feb/March-2025
Subject: CHEMISTRY

Duration of Paper: 2 Hrs. **Maximum Marks :60**

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

1. Answer any Six questions. **6x2=12**

a) Mention two limitations of Beer-Lambert's law .

b) Give two factors affecting the scattering of light .

c) Write two limitations of radius ratio effect

d) State Octate rule .

e) What are activating groups ? give examples .

f) Write Diels-Alder reaction ?

g) Mention the entropy change in reversible process and irreversible process .

h) Write Freundlich adsorption isotherm and mention the terms .

2. Answer any Three questions. **3x4=12**

a) State and derive Beer-Lambert's law .

b) Explain the colorimetric determination of Iron .

c) Write in brief the principle of nephelometry and the choice between turbidimetry and nephelometry .

d) Explain in brief the turbidimetric determination of Sulphate

3. Answer any Three questions . **3x4=12**

a) Define radius ratio. Calculate the limiting radius ratio of ionic solid when coordination number is 3

b) Write about the following .

i) Kapustinskii equation

ii)Solvation energy and solubility of ionic solids

c) Explain the valence shell electron pair repulsion (VSEPR) theory .

d) Explain the shape of SF_4 molecule by VSEPR theory .

4. Answer any Three questions . **3x4=12**

a) Explain the mechanism of addition of HBr to propene .

b) Explain the following reactions .

i) Saytzeff's elimination reaction

ii)Ozonolysis of propene

c) What happens when tertiary butyl bromide is treated with aqueous KOH? Write the mechanism of reaction .

d) Explain the mechanism of Friedel – craft's alkylation of benzene.

5. Answer any Three questions **3x4=12**

a) Show that the Joule – Thomson expansion of a gas is an is enthalpic change .

b) Derive Gibb's – Helmholtz equation .

c) Derive Langmuir adsorption isotherm .

d) What is homogeneous catalysis ? explain the intermediate compound formation theory.

Q. P. Code:126COM03XXXAEC03T

Reg No

B.Sc / BCA III Semester (NEP Regular) Examination, Feb/March-2025
Subject: Political Science (India and Indian constitution)

Duration of Paper: 1 Hr. **Maximum Marks :30**

Instructions to the Candidates:
1. Check for complete printing of 30 questions.
2. The last page to the question paper may be used for rough work.
3. Each question has four multiple choice answer and choose the correct one.
4. Darken the appropriate circle with the ball pen.
5. Damaging, overwriting, using whitener on the OMR sheets are strictly prohibited.
6. No candidates will be allowed to leave the examination shall 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 the entries and that the invigilator has affixed his/her signature in the space provided on the OMR.

1. Who was the spiritual successor of Gandhiji ?
   A) Jawahar Lal Nehru B) Vinoba Bhave C) Bal Gangadhar Tilak
   D) Aurobindo Ghose
   ಗಾಂಧೀಜಿಯವರ ಆಧ್ಯಾತ್ಮಿಕ ಉತ್ತರಾಧಿಕಾರಿ ಯಾರು ?
   A) ಜವಾಹರ್ ಲಾಲ್ ನೆಹರೂ B) ವಿನೋಭಾ ಭಾವೆ C) ಬಾಲಗಂಗಾಧರ್ ತಿಲಕ
   D) ಅರವಿಂದೋ ಘೋಷ್
2. Who was the Guru of Swami Vivekananda ?
   A) Ramakrishna Paramahamsa B) Dayananda Saraswati
   C) Rabindranath Tagore D) None of the above
   ಸ್ವಾಮಿ ವಿವೇಕಾನಂದರ ಗುರು ಯಾರು ?
   A) ರಾಮಕೃಷ್ಣ ಪರಮಹಂಸ B) ದಯಾನಂದ ಸರಸ್ವತಿ
   C) ರವೀಂದ್ರನಾಥ ಟ್ಯಾಗೋರ್ D) ಮೇಲಿನ ಯಾವುದು ಅಲ್ಲ
3. Which of the following was opposed by Raja Ram Mohan Roy?
   A) Child marriage B) The practice of Sati C) Caste system D) All the above
   ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದನ್ನು ರಾಜಾ ರಾಮ್ ಮೋಹನರಾಯ್ ವಿರೋಧಿಸಿದರು ?
   A) ಬಾಲ್ಯ ವಿವಾಹ B) ಸತಿ ಪದ್ಧತಿ C) ಜಾತಿ ವ್ಯವಸ್ಥೆ D) ಮೇಲಿನ ಎಲ್ಲಾ
4. Who is regarded as the Karanataka Gandhi ?
   A) Basavanna B) Hardekar Manjappa C) F.G. Halakatti D) Kadidal Manjappa
   ಕರ್ನಾಟಕ ಗಾಂಧಿ ಎಂದು ಯಾರನ್ನು ಕರೆಯುತ್ತಾರೆ ?
   A) ಬಸವಣ್ಣ B) ಹರ್ಡೇಕರ ಮಂಜಪ್ಪ C) ಫ ಗು. ಹಳಕಟ್ಟಿ
   D) ಕಡಿದಾಳ ಮಂಜಪ್ಪ

Q. P. Code:126COM03XXXAEC03T

5. Who presided over the first session of Indian National Congress ?
   A) Annie Besant B) A.O. Hume C) Subhash Chandra Bose D) W. C. Banerjy
   ಭಾರತೀಯ ರಾಷ್ಟ್ರೀಯ ಕಾಂಗ್ರೆಸ್ಸಿನ ಮೊದಲ ಅಧಿವೇಶನದ ಅಧ್ಯಕ್ಷತೆಯನ್ನು ಯಾರು ವಹಿಸಿದರು?
   A) ಆನಿಬೆಸಂಟ್ B) ಎ.ಓ. ಹ್ಯೂಮ್
   C) ಸುಭಾಸ ಚಂದ್ರ ಭೋಸ್ D) ಡಬ್ಲೂ. ಸಿ ಬ್ಯಾನರ್ಜಿ
6. Who was the chairman of the Drafting Committee ?
   A) Nehru B) Sardar Patel C) Rajendra Prasad D) Dr. B.R. Ambedkar
   ಸಂವಿಧಾನದ ಕರಡು ಸಮಿತಿಯ ಅಧ್ಯಕ್ಷರು ಯಾರು ?
   A) ನೆಹರೂ B) ಸರದಾರ ಪಟೇಲ್ C) ರಾಜೇಂದ್ರ ಪ್ರಸಾದ್
   D) ಡಾ.ಬಿ.ಆರ್. ಅಂಬೇಡ್ಕರ್
7. What was the key feature of the Indian Councils Act 1909 ?
   A) Abolition of Separate Electorates
   B) Introduction of Separate Electorates for Muslims
   C) Granting full independence to India
   D) Complete Indian control of legislative councils
   ಇಂಡಿಯನ್ ಕೌನ್ಸಿಲ್ ಆಕ್ಟ್ 1909 ರ ಪ್ರಮುಖ ಲಕ್ಷಣ ಯಾವುದು ?
   A) ಪ್ರತ್ಯೇಕ ಮತದಾನ ವ್ಯವಸ್ಥೆಯ ರದ್ದತಿ B) ಮುಸ್ಲಿಮರಿಗೆ ಪ್ರತ್ಯೇಕ ಮತಕ್ಷೇತ್ರಗಳ ಪರಿಚಯ
   C) ಭಾರತಕ್ಕೆ ಸಂಪೂರ್ಣ ಸ್ವಾತಂತ್ರ್ಯ ನೀಡುವುದು
   D) ಶಾಸಕಾಂಗ ಮಂಡಳಿಗಳ ಮೇಲೆ ಸಂಪೂರ್ಣ ಭಾರತದ ನಿಯಂತ್ರಣ
8. Which amendment of the Indian constitution added the term 'socialist' to the preamble ?
   A) 42nd amendment B) 44th amendment C) 62nd amendment D) 60th amendment
   ಭಾರತ ಸಂವಿಧಾನದ ಯಾವ ತಿದ್ದುಪಡಿಯು 'ಸಮಾಜವಾದಿ' ಎಂಬ ಪದವನ್ನು ಪೂರ್ವಪೀಠಿಕೆಗೆ ಸೇರ್ಪಡಿಸಿತು ?
   A) 42 ನೇ ತಿದ್ದುಪಡಿ B) 44 ನೇ ತಿದ್ದುಪಡಿ C) 62 ನೇ ತಿದ್ದುಪಡಿ
   D) 60 ನೇ ತಿದ್ದುಪಡಿ
9. Which fundamental right is deleted from Part III of the Indian Constitution ?
   A) Right to equality B) Right to liberty C) Right to property D) Right to education
   ಯಾವ ಮೂಲಭೂತ ಹಕ್ಕನ್ನು ಭಾರತ ಸಂವಿಧಾನದ III ನೇ ಭಾಗದಿಂದ ತೆಗೆಯಲಾಗಿದೆ ?
   A) ಸಮಾನತೆಯ ಹಕ್ಕು B) ಸ್ವಾತಂತ್ರ್ಯದ ಹಕ್ಕು C) ಆಸ್ತಿಯ ಹಕ್ಕು
   D) ಶೈಕ್ಷಣಿಕ ಹಕ್ಕು

10. Which of the following schedules relates to the division of subjects between the union and the states ?

A) Schedule - III B) Schedule-XI C) Schedule-VII D) Schedule- XII

ಈ ಕೆಳಗಿನ ಯಾವ ಅನುಸೂಚಿಯು ಕೇಂದ್ರ ಹಾಗೂ ರಾಜ್ಯಗಳ ಮಧ್ಯದ ಅಧಿಕಾರ ಹಂಚಿಕೆ ಕುರಿತು ತಿಳಿಸುತ್ತದೆ ?

A) ಅನುಸೂಚಿ-III B) ಅನುಸೂಚಿ-XI C) ಅನುಸೂಚಿ-VII D) ಅನುಸೂಚಿ-XII

11. Which article of the Indian constitution abolishes untouchability ?

A) Article-13 B) Article-17 C) Article-19 D) None of the above

ಭಾರತ ಸಂವಿಧಾನದ ಯಾವ ವಿಧಿಯು ಅಸ್ಪೃಶ್ಯತೆಯನ್ನು ನಿಷೇಧಿಸುತ್ತದೆ ?

A) 13 ನೇ ವಿಧಿ B) 17 ನೇ ವಿಧಿ C) 19 ನೇ ವಿಧಿ D) ಮೇಲಿನ ಯಾವುದೂ ಅಲ್ಲ

12. Which article of the Indian Constitution provides for the amendment of the constitution ?

A) Article-356 B) Article -368 C) Article -310 D) Article -315

ಭಾರತ ಸಂವಿಧಾನದ ಯಾವ ವಿಧಿಯು ತಿದ್ದುಪಡಿಯ ಕುರಿತು ತಿಳಿಸುತ್ತದೆ?

A) 356 ನೇ ವಿಧಿ B) 368 ನೇ ವಿಧಿ C) 310 ನೇ ವಿಧಿ D) 315 ನೇ ವಿಧಿ

13. Who has the power of pardon?

A) Prime Minister B) Chief Minister C) Law minister D) President

ಕ್ಷಮಾದಾನ ಮಾಡುವ ಅಧಿಕಾರವನ್ನು ಯಾರು ಹೊಂದಿರುತ್ತಾರೆ ?

A) ಪ್ರಧಾನ ಮಂತ್ರಿ B) ಮುಖ್ಯಮಂತ್ರಿ C) ಕಾನೂನು ಮಂತ್ರಿ D) ರಾಷ್ಟ್ರಪತಿ

14. How many members are nominated to Rajya Sabha ?

A) 23 B) 12 C) 08 D) 24

ರಾಜ್ಯಸಭೆಗೆ ನಾಮಕರಣಗೊಳ್ಳುವ ಸದಸ್ಯರ ಸಂಖ್ಯೆ ಎಷ್ಟು ?

A) 23 B) 12 C) 08 D) 24

15. Who decides allotment of symbols to political parties ?

A) State Election Commission B) High court C) Election Commission of India D) Parliament

ರಾಜಕೀಯ ಪಕ್ಷಗಳಿಗೆ ಚಿನ್ಹೆಯನ್ನು ಯಾರು ನೀಡುತ್ತಾರೆ ?

A) ರಾಜ್ಯ ಚುನಾವಣಾ ಆಯೋಗ B) ಹೈ ಕೋರ್ಟ್

C) ಭಾರತ ಚುನಾವಣಾ ಆಯೋಗ D) ಸಂಸತ್ತು

16. When was Acharya Vinobha Bhave born?

A) 1895 B) 1896 C) 1892 D) 1897

ಆಚಾರ್ಯ ವಿನೋಭಾ ಭಾವೆ ಅವರು ಯಾವಾಗ ಜನಿಸಿದರು?

A) 1895 B)1896 C)1892 D)1897

17. The constitution of India came into force on -

A) January 26,1950 B) January 25,1950 C) November 26,1950

D) January 30,1950

ಭಾರತ ಸಂವಿಧಾನವನ್ನು ಜಾರಿಗೊಳಿಸಿದ ದಿನ -------

A) ಜನವರಿ 26,1950 B) ಜನವರಿ 25,1950

C) ನವಂಬರ್ 26,1950 D) ಜನವರಿ 30,1950

18. Which of the following is not a subject in the concurrent list of Indian constitution?

A) Education B) Forest C) Marriage D) Finance

ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವ ವಿಷಯ ಭಾರತ ಸಂವಿಧಾನದ ಸಮವರ್ತಿ ಪಟ್ಟಿಯಲ್ಲಿಲ್ಲ ?

A) ಶಿಕ್ಷಣ B) ಅರಣ್ಯ C) ವಿವಾಹ D) ಹಣಕಾಸು

19. Who termed article 32 as "the heart and soul of Indian constitution""?

A) Jawaharlal Nehru B) Dr B.R. Ambedkar C) Dr Rajendra Prasad D) T. T. Krishnamachari

ಭಾರತ ಸಂವಿಧಾನದ 32 ನೇ ವಿಧಿಯನ್ನು "ಸಂವಿಧಾನದ ಹೃದಯ ಮತ್ತು ಆತ್ಮ" ಎಂದು ಯಾರು ಕರೆದರು?

A) ಜವಾಹರಲಾಲ್ ನೆಹರೂ B) ಡಾ ಬಿ.ಆರ್ ಅಂಬೇಡ್ಕರ್

C) ಡಾ.ರಾಜೇಂದ್ರ ಪ್ರಸಾದ್ D)ಟಿ.ಟಿ.ಕೃಷ್ಣಮಾಚಾರಿ

20. From which constitution, the concept of Judicial Review was borrowed?

A) UK B) USA C) Canada D) Switzerland

ನ್ಯಾಯಿಕ ವಿಮರ್ಶೆಯ ಪರಿಕಲ್ಪನೆಯನ್ನು ಯಾವ ಸಂವಿಧಾನದಿಂದ ಎರವಲು ಪಡೆದುಕೊಳ್ಳಲಾಗಿದೆ?

A) ಯುಕೆ B) ಯು.ಎಸ್.ಎ C) ಕೆನಡಾ D) ಸ್ವಿಟ್ಜರ್ ಲೆಂಡ್

21. Who presides over the joint session of parliament?

A) Speaker of Lok Sabha B) President C) Prime Minister D) Vice President

ಸಂಸತ್ತಿನ ಜಂಟಿ ಅಧಿವೇಶನದ ಅಧ್ಯಕ್ಷತೆಯನ್ನು ಯಾರು ವಹಿಸುತ್ತಾರೆ?

A)ಲೋಕಸಭೆ ಸಭಾಪತಿ B) ರಾಷ್ಟ್ರಪತಿ C) ಪ್ರಧಾನ ಮಂತ್ರಿ D) ಉಪರಾಷ್ಟ್ರಪತಿ

22. According to which article, Attorney General is appointed?

A) 74 B) 75 C) 77 D) 76

ಯಾವ ವಿಧಿ ಅನ್ವಯ ಅಟಾರ್ನಿ ಜನರಲ್ ನೇಮಕಗೊಳ್ಳುತ್ತಾರೆ?

A) 74 B) 75 C) 77 D)76

23. What is the term of members of Rajya Sabha?

A) 4 years B) 3 years C) 5 years D) 6 years

ರಾಜ್ಯಸಭೆಯ ಸದಸ್ಯರ ಅಧಿಕಾರ ಅವಧಿ ಎಷ್ಟು?

A) 4 ವರ್ಷ B) 3 ವರ್ಷ C) 5 ವರ್ಷ D) 6 ವರ್ಷ

24. Who is the coordinator of Union Council of Ministers?
A) Prime minister B) President C) Speaker D) Cabinet Secretary
ಕೇಂದ್ರ ಮಂತ್ರಿಮಂಡಲದ ಸಂಯೋಜಕರು ಯಾರು?
A) ಪ್ರಧಾನಮಂತ್ರಿ B) ರಾಷ್ಟ್ರಪತಿ C) ಸಭಾಪತಿ D) ಸಂಪುಟ ಕಾರ್ಯದರ್ಶಿ

25. The aims and objectives of the Constitution of India are embodied in------
A) Part III of the Constitution B) Preamble of the Constitution
C) Part IV of the Constitution D) Chapter on Fundamental Duties
ಭಾರತದ ಸಂವಿಧಾನದ ಗುರಿ ಮತ್ತು ಉದ್ದೇಶಗಳನ್ನು ಎಲ್ಲಿ ಅಳವಡಿಸಲಾಗಿದೆ?
A)ಸಂವಿಧಾನದ 3 ನೇ ಅಧ್ಯಾಯ B)ಸಂವಿಧಾನದ ಪೂರ್ವ ಪೀಠಿಕೆ
C)ಸಂವಿಧಾನದ 4 ನೇ ಅಧ್ಯಾಯ D)ಮೂಲಭೂತ ಕರ್ತವ್ಯಗಳ ಅಧ್ಯಾಯ

26. What is Fraternity?
A) Unity and Integrity B) Sprit of Brotherhood C) Social Justice
D) Elimination of injustice
ಭ್ರಾತೃತ್ವ ಎಂದರೇನು?
A) ಏಕತೆ ಮತ್ತುಸಮಗ್ರತೆ B) ಸಹೋದರತ್ವ C) ಸಾಮಾಜಿಕ ನ್ಯಾಯ
D) ಅನ್ಯಾಯ ಹೋಗಲಾಡಿಸುವುದು

27. Untouchability is associated with------ inequality
A) Political B) Economic C) Religious D) Social
ಅಸ್ಪೃಶ್ಯತೆಯು _____ಅಸಮಾನತೆಗೆ ಸಂಬಂಧಿಸಿದೆ.
A) ರಾಜಕೀಯ B) ಆರ್ಥಿಕ C) ಧಾರ್ಮಿಕ D) ಸಾಮಾಜಿಕ

28. When was the first Lok Sabha session of Independent India held?
A) 13 June 1952 B) 13 June 1951 C) 13 May 1952 D) 13 May 1951
ಸ್ವತಂತ್ರ ಭಾರತದ ಮೊದಲ ಲೋಕಸಭಾ ಅಧಿವೇಶನ ಯಾವಾಗ ನಡೆಯಿತು?
A) 13 ಜೂನ್ 1952 B) 13 ಜೂನ್ 1951 C) 13 ಮೇ 1952 D) 13 ಮೇ 1951

29. Who is the present Vice President of India?
A) Salman Khurshid B) Venkaiah Naidu C) Jagadeep Dhankhar D)Hamid Ansari
ಪ್ರಸ್ತುತ ಭಾರತದ ಉಪರಾಷ್ಟ್ರಪತಿ ಯಾರು?
A) ಸಲ್ಮಾನ್ ಖುರ್ಷಿದ್ B) ವೆಂಕಯ್ಯ ನಾಯ್ಡು C) ಜಗದೀಪ್ ಧನಕರ್ D) ಹಮೀದ್ ಅನ್ಸಾರಿ

30. Which of the following states has the highest Lok Sabha seats?
A) Uttar Pradesh B) Bihar C) Maharashtra D) Andhra Pradesh
ಲೋಕಸಭೆಯಲ್ಲಿ ಅತಿ ಹೆಚ್ಚು ಸ್ಥಾನಗಳನ್ನು ಹೊಂದಿರುವ ರಾಜ್ಯ ಯಾವುದು?
A) ಉತ್ತರ ಪ್ರದೇಶ B) ಬಿಹಾರ C) ಮಹಾರಾಷ್ಟ್ರ D) ಆಂಧ್ರಪ್ರದೇಶ

Q. P. Code: 2A1KANL01T

Reg No | | | | | | | | | | | |

B. Sc I Semester (SEP Regular) Examination, Feb/March -2025

Subject: Kannada (Basic) ಆವಶ್ಯಕ ಕನ್ನಡ

(ಸಾಹಿತ್ಯ ಸೊಬಗು-೧)

Duration of Paper: 3 Hrs. **Maximum Marks :80**

Instruction to the Candidate: ಭಾಷೆ ಮತ್ತು ಬರಹದ ಶುದ್ಧಿಗೆ ಗಮನಕೊಡಲಾಗುವುದು.

ಪ್ರ 1) **ಬೇಕಾದ ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಿರಿ.** **(10x3=30)**

a) ಸಮೂಹ ಮಾಧ್ಯಮಗಳಲ್ಲಿ ಕನ್ನಡ ಭಾಷೆಯು ಹೇಗೆ ಬಳಕೆಯಾಗುತ್ತಿದೆ? ಅದರ ಅಸ್ತಿತ್ವ ವಿವರಿಸಿ.

b) ವಚನಗಳಲ್ಲಿ ಮೂಡಿ ಬಂದಿರುವ ಸಾಮಾಜಿಕ ಆಶಯ ಕುರಿತು ಬರೆಯಿರಿ.

c) 'ರೊಟ್ಟಿ'ಕಥೆ ಹಸಿವಿನ ಧಾರುಣತೆಯೊಂದಿಗೆ ವರ್ತಮಾನದ ಘಟನೆ ಮತ್ತು ವ್ಯಕ್ತಿಯ ಮುಖಾಮುಖಿಯಾಗಿದೆ ವಿವರಿಸಿ.

d) 'ಉಚಲ್ಯಾ ' ಅಲೆಮಾರಿ ಸಮಾಜದ ಬದುಕಿನ ಯಾತನೆಯಾಗಿದೆ ಚರ್ಚಿಸಿರಿ.

e) 'ರಕ್ತರಾತ್ರಿ – ವಿಮರ್ಶೆ' ಕಂದಗಲ್ಲ ಹನುಮಂತರಾಯರ ಪ್ರತಿಭಾ ಮೌಲ್ಯವನ್ನು ಹೆಚ್ಚಿಸಿದ ವಿವರಿಸಿರಿ.

ಪ್ರ 2) **ಬೇಕಾದ ನಾಲ್ಕಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.** **(5x4=20)**

a) ಬಸವಣ್ಣ

b) ಅಕ್ಕಮಹಾದೇವಿ

c) ಲಕ್ಷ್ಮೀಶ

d) ಅನ್ನಯಜ್ಞ

e) ಅಮ್ಮನಿಂದ ಮಗಳಿಗೆ ಪತ್ರ-ಮಾದರಿ

f) ಸರ್ಕಾರಿ ಪತ್ರದ ಮಾದರಿ

ಪ್ರ-3 ಬೇಕಾದ ಮೂರಕ್ಕೆ ಸಂದರ್ಭದೊಡನೆ ಸ್ಪಷ್ಟೀಕರಿಸಿರಿ **(5X3=15)**

a) "ಆಸೆಯೆಂಬುದು ಅರಸಂಗಲ್ಲದ ಶಿವಭಕ್ತರಿಗುಂಟೆ ಅಯ್ಯಾ?"

b) "ಬೇಡ, ಯಾರನ್ನೂ ಹೊಡೀಬೇಡಿ"

c) "ಅನ್ನದಾನ ಮಹಾಯಜ್ಞ! ಅನ್ನ ಹೀನ ಆಳನು"

d) "ನಿಮ್ಮ ಹುಡುಗ ಶುದ್ಧ ಲೇಖನ ಬರೆದಿದ್ದಾನೆ"

e) "ಮಾಣಕ್ಯಾ ಎಲ್ಲಾದನ ಹೇಳು?"

ಪ್ರ-3. ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿ **(15X1=15)**

1) ಡಾ. ಕೆ.ವಿ. ನಾರಾಯಣರ ಜನ್ಮಸ್ಥಳ ಯಾವುದು?

2) ಬಸವಣ್ಣನವರ ತಂದೆ-ತಾಯಿ ಹೆಸರೇನು?

3) ಆಯ್ದಕ್ಕಿ ಲಕ್ಕಮ್ಮಳ ವಚನಾಂಕಿತ ಯಾವುದು?

4) 'ಬೇಲೂರಿನ ಶಿಲಾಬಾಲಿಕೆಯರು' ಕವಿತೆಯನ್ನು ಬರೆದವರು ಯಾರು?

5) ನಾಗೇಶ ಹೆಗಡೆ ಅವರ ಹುಟ್ಟೂರು ಯಾವುದು?

6) ನಾವಿರುವ ಬ್ರಹ್ಮಾಂಡವನ್ನು ಏನೆಂದು ಕರೆಯುತ್ತಾರೆ?

7) ಸುಭಾಷ್ ಪಾಳೇಕರ್ ಎಲ್ಲಿ ಜನಿಸಿದರು?

8) 'ಕಲ್ಲು ಕರಗುವ ಸಮಯ' ಕಥಾಸಂಕಲನದ ಲೇಖಕರು ಯಾರು?

9) ಬೇಂದ್ರೆಯವರ ಕಾವ್ಯನಾಮ ಯಾವುದು?

10) ಲಕ್ಷ್ಮಣ ಗಾಯಕವಾಡರ ಆತ್ಮಕತೆ ಯಾವುದು?

11) 'ರಕ್ತ ರಾತ್ರಿ ವಿಮರ್ಶೆ' ಬರೆದವರು ಯಾರು?

12) ರಕ್ತ ರಾತ್ರಿ ನಾಟಕ ಬರೆದವರು ಯಾರು?

13) ಡಾ. ವಸಂತ ಕುಲಕರ್ಣಿಯವರ ಜನ್ಮ ಸ್ಥಳ ಯಾವುದು?

14) 'ಡೆಮಿಆಫಿಷಿಯಲ್ ಲೆಟರ್' ಎಂದು ಯಾವ ಪತ್ರವನ್ನುಕರೆಯುತ್ತಾರೆ?

15) ಡಿ.ವಿ.ಜಿ ಯವರ ಪೂರ್ಣ ಹೆಸರೇನು?

QP CODE: 47032

Reg. No. | | | | | | | | |

First Semester B.Sc.6 (NEP) Degree Examination,
January / February 2025
PHYSICS (DSC)
(Repeaters)
A0320 / A030320 : Mechanics and Properties of Matter

Time: 2 Hours Max. Marks : 60

Instructions:

1. Calculators can be used to calculate problems.
2. Write intermediate steps during problems.

1. Answer any SIX of the following questions: (6 × 2 = 12)

a) What is elastic collision ?

b) Define angular momentum.

c) State Newton's law of Gravitation.

d) Define orbital velocity.

e) What is Neutral axis?

f) Define stress

g) Define Angle of contact.

h) Mention the difference between stream line and turbulent flow.

2. Answer any ONE full question "a and b" OR "c and d"

a) Discuss inelastic collisions between two particles which stick together in
i) Laboratory frame of reference
ii) Centre of mass frame of reference. (8)

b) A sand bag of mass 10 kg is suspended with long weightless string. A bullet of mass 0.2 kg is fired with a speed of 20 ms^{-1} in to the bag and stays in the bag. Calculate speed acquire by the bag. (4)

OR

c) What is Rocket and Derive an expression for the final velocity of single stage Rocket. (8)

d) A mass of 5 kg at rest explodes in to 2 pieces of 2 kg and 3 kg. If 2 kg piece is moving with velocity of 10 ms^{-1}, calculate the velocity of 3 kg piece. (4)

3. **Answer any ONE full question "a and b" OR "c and d" :**

a) State Kepler's II law of planetary motion on the basis of law of conservation of Angular momentum prove Kepler's II law. (8)

b) A satellite is orbiting around the earth at a height of 200 km radius and mass of earth are 6400 km and 6×10^{24} kg respectively. Calculate orbital velocity and period of satellite having mass 400 kg (Given $G = 6.67 \times 10^{-11} Nm^2 / kg^2$.) (4)

OR

c) Derive an expression for moment of inertia of rectangular lamina about an axis through its centre and parallel to one side. (8)

d) A circular disc of mass 0.5 kg and radius 0.1m is revolving at the rate of 60 rpm about an axis passing through its centre and it is perpendicular to its plane. Calculate its moment of inertia and kinetic energy. (4)

4. **Answer any ONE full question "a and b" OR "c and d" :**

a) Derive an expression for bending moment of a beam. (8)

b) Calculate Young's modulus of the material if the rigidity modulus is 4.2×10^{10} Nm^{-2} and bulk modulus is $1.4 \times 10^{10} Nm^{-2}$ (4)

OR

c) Obtain the expression for couple per unit twist of the wire fixed at one end and twisted by a couple at free end. (8)

d) A bar of geometrical moment of inertia 2×10^{-3} kg m^2 is bent into an arc of radius 2m. Calculate bending moment of the bar. The value of Young's Modulus of elasticity of material of the bar is $12 \times 10^{10} Nm^{-2}$ (4)

5. **Answer any ONE full question "a and b" OR "c and d" :**

a) Derive an expression for rise of liquid in capillary tube. (8)

b) Find the excess of pressure inside a spherical drop of water of radius 1 mm. Surface tension of water $= 73 \times 10^{-3}$ N/m (4)

OR

c) Derive Stoke's formula and terminal velocity of lead ball falling down through viscous liquid. (8)

d) Calculate viscosity of given liquid when a steel ball of radius 5×10^{-4} m falls through it with terminal velocity 30 ms^{-1} $\rho = 7.8 \times 10^3$ kg m^{-3}, $\sigma = 0.87 \times 10^3$ kg m^{-3}. (4)

* * *

Q. P. Code:2A1CHEM01T

Reg No | | | | | | | | | | | |

B.Sc. I Semester (SEP Regular) Examination, Feb/March -2025
Subject: Chemistry

Duration of Paper: 3 Hrs. **Maximum Marks :80**

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

Q.No1. Answer any Ten questions . **10x2=20**

a) Write de Broglie relation and its significance.

b) State Aufbau principle .

c) Write the outer electronic configuration of chromium (Z=24) and copper (Z=29).

d) What are nucleophiles ? give example.

e) What is free radical ? mention how it is formed.

f) What happens when acetylene is subjected to polymerization .

g) Define RMS velocity. Give its equation .

h) Define mean free path.

i) Mention two factors affecting the distribution constant .

j) What are indeterminate errors .

k) What are titrant and titrand?

l) What are redox titrations ? give example .

Q.No2. Answer any Three questions . **(3x5=15)**

a Explain the hydrogen atomic spectrum with a diagram .

b. Explain the significance of quantum numbers.

c. What is orbital? Write the shape and directional nature of 's'and ' p' orbitals.

d. Explain the following of filling electrons in orbitals

i)Hund's rule of multiplicity.

ii) (n+1) rule.

Q.No3. Answer any Three questions. **(3x5=15)**

a. Write the preparation of alkenes by

i) Dehydration of alcohols

ii) Dehydrohalogenation of alkyl halides.

b. Explain the following with example.

i) Saytzeff's elimination reaction

ii) Hydroboration of alkenes

c. What is peroxide effect? Discuss its mechanism with the addition of HBr to propene.

d. What is ozonolysis? Explain the ozonolysis of 2-butene.

Q.No 4. Answer any Three questions. **3x5=15**

a. Explain the critical phenomenon by Andrew's isotherms of CO_2.

b. Derive the expressions for critical constants in terms of Vander waal's constants.

c. Derive the modified distribution law when solute undergoes association in one of the solvents.

d. Show how the multi-step solvent extraction is more efficient than single step extraction.

Q.No 5 Answer any Three questions. **3x5=15**

a. What are errors? Write about determinate errors.

b. What is titration curve? Give the titration curves for all the four types of acid-base titrations.

c. What are metal ion indicators? Explain the theory of metal ion indicators with respect to the Erichrome Black-T used in EDTA titrations.

d. Write about the following.

i) Redox indicators and Redox titration curves.

ii) Precipitation titrations.

Q. P. Code:126BSC01PHYDSC91T

Reg No | | | | | | | | | | |

B.Sc. I Semester (NEP-Repeater) Examination, Feb/March -2025

Subject: PHYSICS

Mechanics and Properties of Matter

Duration of Paper: 2 Hrs. **Maximum Marks :60**

Instruction to the Candidate:

1) Calculators are allowed to solve the problems.
2) Write intermediate steps.

1) Answer any SIX questions of the following **6x2=12M**

a. State law of conservation of linear momentum.

b. State law of conservation of energy.

c. What is escape velocity?

d. State parallel axis theorem.

e. State Hooke's law.

f. What is torsional pendulum?

g. Define surface tension.

h. What is turbulent flow?

2) Answer any ONE full question "a and b" OR "c and d".

a. Derive expression for final velocity in case of elastic collision in 1-D center frame of reference. 8M

b. Distinguish between elastic and inelastic collision with examples. 4M

OR

c. State the principle of rocket. Obtain expression for velocity of a single stage rocket. 8M

d. A rocket of mass 50×10^3 Kg is launched vertically up. It is fired upward after burning some part of fuel, weighs 15×10^3Kg. The emitted gases have velocity of 3 km/s with respect to the rocket. Calculate the speed of rocket assuming the rocket starts from rest. 4M

3) Answer any ONE full question "a and b" OR "c and d".

a. State and prove Kepler's third law of planetary motion. 8M

b. What is weightlessness? Explain. 4M

OR

c. Derive expression for moment of inertia of a rectangular lamina about an 8M

(i) axis in the plane of the lamina passing through its center and parallel to its length

(ii) axis perpendicular to the plane of the lamina passing through its center.

d. A uniform square lamina having a radius of gyration 8.5×10^{-2}m and length of equivalent compound pendulum is 15×10^{-2}m. Hence find the period of oscillation. 4M

4) **Answer any ONE full question "a and b" OR "c and d".**

a. Drive the relation between three moduli of elasticity Y,K and η. 8M

b. Derive expression for work done per unit volume during volume strain . 4M

OR

c. Derive the expression for young's modulus of beam supported at its ends & loaded at the middle. 8M

d. The young's modulus of copper is 100 GPa and Poisson's ratio is 0.45.Calculate modulus of rigidity . 4M

5) **Answer any ONE full question "a and b" OR "c and d".**

a. Derive an expression for rise of liquid in a capillary tube. 8M

b. Calculate the excess of pressure between the inside and outside of a soap bubble of radius 2cm. Surface tension of soap solution is $4x10^{-2}$ N/m. 4M

OR

c. Discuss Poiseuille's method for determining the coefficient of viscosity of liquid. 8M

d. Explain the effects of temperature on viscosity. 4M

Q. P. Code: 2A1PHYM01T

Reg No | | | | | | | | | | |

B.Sc. I Semester (SEP Regular) Examination, Feb/March -2025
Subject: PHYSICS
Mechanics and Properties of Matter

Duration of Paper: 3 Hrs. **Maximum Marks :80**

Instruction to the Candidate:
1) Calculate is allowed to solve the problems.
2) Write intermediate steps.

1) Answer any Ten of the following 10x2=20M

a) State the law of conservation of linear momentum

b) Mention the difference between elastic and inelastic collision.

c) State work-energy theorem.

d) State the universal law of gravitation.

e) State Kepler's first law of planetary motion.

f) What is moment of inertia? and on what factor does it depends?

g) Define stress and strain.

h) What is neutral axis?

i) What is bending moment?

j) Define surface tension and write its dimensional formula.

k) What are the effects of temperature and impurities on surface tension?

l) Define viscosity?

2) Answer any ONE full question "a and b" OR " c and d "

a) Derive the final velocity in case of elastic collision in laboratory frame of reference 10M

b) A shell of mass 32 kg explodes into two parts one part of mass 25 kg moves in original direction with velocity 25 m/s, what is the velocity of the other particle? 5M

OR

c) What is satellite? Derive the expression for velocity of rocket in single stage? 10M

d) A rocket starts from rest with exhaust velocity of gas equals to 204 km/sec. Calculate the velocity attained by rocket, when its mass is reduced to 1/20th of original value? 5M

3) Answer any ONE full question "a and b" OR " c and d "

a) State and explain law of gravitation and derive expression for orbital velocity 10M

b) Calculate moments of inertia of lamina of mass 3kg whose length and breadth are 2m and 1m respectively (i) about an axis passing through its center and parallel to one side. (ii) about axis passing through its center and perpendicular to its plane. 5M

OR

c) Give that theory of compound pendulum and show that period of oscillation about point of suspension and point of oscillation are same. 10M

d) The period of earth is 24 Hrs, calculate period of planet whose radial distance is 16 times that of the earth from sun. 5M

4) Answer any ONE full question "a and b" OR " c and d "

a) Derive the relation between Y, K and η 10M

b) Calculate Young's modulus of wire, if modulus of rigidity and bulk modulus are 4.2×10^{10} N/m^2 and 1.4×10^{10} N/m^2. 5M

OR

c) Derive the expression for Young's modulus in case of bending of beam supported at its ends and loaded at middle. 10M

d) A uniform metal disc of wire of diameter 0.1m and mass 1.4kg is fixed symmetrical to lower end of wire (l=1m & D=1.44mm). The upper end is fixed, calculate 'η' of wire if period is 1.66sec. 5M

5) Answer any ONE full question "a and b" OR " c and d "

a) Derive the expression for capillary rise of liquid in a capillary tube. 10M

b) Calculate excess pressure inside spherical drop of water of diameter 4mm. Given surface tension of water is 72×10^{-3} N/m. 5M

OR

c) Drive an expression of Stoke's formula for viscosity. 10M

d) Mention the difference between turbulent and streamline flow. 5M

Q. P. Code:126BSC01LANAEC03T/ 126BCA01LANAEC03T

Reg No | | | | | | | | | | | |

B.Sc/BCA. I Semester (NEP Repeater) Examination, Feb/March -2025
Subject: Generic English -1

Duration of Paper: 2 Hrs. **Maximum Marks :60**

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

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

1. What is the main cause of soil erosion ?
2. What does the author compare water in a landscape to ?
3. What is the long form of BBC ?
4. How far is the station from Baldeo's tribal village ?
5. Who takes over the charge of watchman after the death of Baldeo ?
6. Who translated 'Vachana 820' ?
7. How was the speaker's country like in past glory in 'To India My Native Land' ?
8. What is the form of the poem 'To India My Native Land' ?
9. What do the roads signify in the poem 'The Road not Taken' ?
10. How many roads diverged in a yellow wood ? **(1x10=10)**

II.

1. 'Life can not exist on earth without water'. Explain.

OR

2. Sketch the character of Baldeo.

III. **(1x10=10)**

1. What role does the poet see for himself with regard to his country in 'To India My Native Land' ?

OR

2. Comment on the central theme of the poem 'The Road not Taken ?

IV. Answer any Two of the following: **(2x5=10)**

1. Introduce yourself before a panel of interview members as an eligible candidate for the post o a manager.
2. Write at least five most common ways for making requests.
3. Write instructions on the task of 'preparing lemon juice' in a paragraph by using the words such as firstly, after this, next, then, the next step is, subsequently, in the following stage, etc.
4. Write an enquiry dialogue between you and manager for opening saving bank account i State Bank of India.

V. Answer any Four of the following sets:

A. Use the following words as directed: **(5x1=5)**

1. 'Slow' as an adverb in a sentence.
2. 'Manage' as a noun in a sentence
3. 'Nobility' as an adjective in a sentence
4. 'Sing' as a noun in a sentence
5. 'Gentle' as an adverb in sentence

B. Fill in the blanks with suitable articles: **(5x1=5)**

1. _____ Sun sets in the west.
2. I had _____ apple for breakfast.
3. My father is _____ doctor.
4. I have _____ umbrella.
5. I have completed _____ MBA degree.

C) Fill in the blanks with suitable prepositions: **(5x1=5)**

1. He studied _____ Oxford
2. He lives _____ Bombay.
3. It is a secret _____ you and me.
4. Ravana was killed _____ Rama.
5. We will be meeting _____ Friday.

D) Convert the following direct question into indirect questions: **(5x1=5)**

1. Where does he play Tennis?
2. When does the next train leave?
3. Does that store sell shampoo?
4. Will she be able to come next week ?
5. What are you doing ?

E) Frame the negative questions: **(5x1=5)**

1. You saw Ann yesterday.
2. It would be nice to paint that wall green.
3. The postman has come.
4. They are ready for class.
5. He is sure of his success.

F) Frame the questions as directed: **(5x1=5)**

1. George broke the glass. (Frame WH question to get underlined word as answer)
2. Rama told me that story. (Frame WH question to get underlined word as answer)
3. They will be arriving soon,_____ (add a question tag)
4. Yes, you are sympathetic. (Frame yes/no question)
5. No, he wasn't nervous (Frame yes/no question)

Q. P. Code: 2A1ENGL01T

Reg No | | | | | | | | | | |

B.Sc I Semester (SEP Regular) Examination, Feb/March -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.No. 1. Answer any TEN of the following in a sentence or two: **10x2=20**

1. How according to the author, is the second kind of book owner in the essay 'How to Mark a Book'?
2. What was Behrman's master piece?
3. What does Self- Reliance primarily advocate?
4. Who wrote the poem 'Song of Youth'?
5. What type of tree does the speaker find in the bower in the poem 'Nutting'?
6. What according to Dr. APJ Abdul Kalam is considered a crime?
7. What is 'verb'?
8. What is 'antonym'?
9. What is 'article' in grammar?
10. How do you start an informal self- introduction?
11. What is 'dialogue'?
12. Mention any two road safety rules for cyclists?

Q.No.2.1. Answer any One of the following : **1x10=10**

a. How does the author argue that marking up a book enhances comprehension and retention?

b. 'Behrman sacrificed his life for someone, he did not know. It was a supreme sacrifice, a selfless service.' Discuss.

2.2 Write a short on any One of the following: **1x5=5**

a. Emerson's philosophy in 'Self – Reliance'

b. The significance of water

Q.No.3.1. Answer any One of the following : **1x10=10**

a. Discuss the central theme of the poem, 'Song of Youth'

b. 'The Road not Taken' is a metaphor of life.' Justify this statement.

3.2 Write a short note on any One of the following: **1x5=5**

a. The description of nature in the poem 'Nutting.'

b. The theme of scientific curiosity and wonder in the poem 'A Universe of Atoms, an Atom in Universe'.

Q.No.4.1 **Fill in the blanks with suitable nouns, adjectives, verbs and adverb given in the bracket:** **5x1=5**

(sofa, busy, gained, apples, clearly)

1. New York is a ---------- city.
2. The teacher explains difficult concepts ----------.
3. The child's toy is under the ----------.
4. She ---------- a lot of knowledge from reading .
5. He ate two ---------- for lunch.

4.2 **Fill in the blanks with suitable articles / prepositions:** **5x1=5**

1. -------- sun rises in the east.
2. I received a letter ---------- my sister.
3. Iron is -------- useful metal.
4. ---------- thing of beauty is joy forever .
5. I am fond ---------- writing letters.

4.3 **Write the synonyms, antonyms, affixes and concord of the following:** **5x1=5**

1. Angry (synonym)
2. Buy (antonym)
3. Correct (affix)
4. Cold (antonym)
5. He ---------- (go) to Delhi yesterday.

Q.No. 5. **Answer any Three of the following :** **3x5=15**

1. Imagine that you are the secretary of college union. You have invited the district commissioner as the chief guest for the college Annual Day. Write a speech to introduce his/ her at the function.
2. Write an imaginary dialogue between a student and a clerk on getting admission for B.Sc-I.
3. Write a description of your dream job.
4. Explain the road safety rules for drivers.