No. of Printed Pages : 2

46101

101881

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

ಕನ್ನಡ ಬೇಸಿಕ್

1 - ವಿಜ್ಞಾನ ವಿಜಯ : ಭಾಷಾ ಪತ್ಯ

Time : 3 Hours | Maximum Marks : 60

ಸೂಚನೆ : ಭಾಷೆ ಮತ್ತು ಬರಹದ ಶುದ್ಧಿಗೆ ಗಮನ ಕೊಡಲಾಗುವುದು.

ವಿಭಾಗ – ಎ

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

   (a) ನಿತ್ಯೋತ್ಸವ ಕವಿ ಎಂದು ಯಾರನ್ನು ಕರೆಯುತ್ತಾರೆ ?

   (b) ಡಾ. ಕೆ.ವಿ. ನಾರಾಯಣ ಅವರು ಬರೆದ ಲೇಖನದಲ್ಲಿ ಕನ್ನಡವು ಎದುರಿಸುತ್ತಿರುವ ಆತಂಕಗಳಲ್ಲಿ ಯಾವುದಾದರೂ ಒಂದನ್ನು ತಿಳಿಸಿರಿ.

   (c) ಭೂಮಿಗೀತ ಪದ್ಯ ಬರೆದ ಕವಿಯ ಹೆಸರನ್ನು ಬರೆಯಿರಿ.

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

   (e) 'ಆ ಬೆಟ್ಟದಲ್ಲಿ ಬೆಳದಿಂಗಳಲ್ಲಿ ಸುಳಿದಾಡಬೇಡ ಗೆಳತಿ' – ಈ ಸಾಲನ್ನು ಬರೆದ ಕವಿಯ ಹೆಸರೇನು ?

   (f) ದೇಶದಲ್ಲಿ ಮೊದಲ ಲಾಕ್‌ಡೌನ್‌ಗೆ ಕಾರಣವಾದ ವೈರಸ್ ಯಾವುದು ?

   (g) 'ವ್ಯಾಕರಣ ತೀರ್ಥ' ಎಂದು ಬಿರುದು ಪಡೆದ ಬಳ್ಳಾರಿ ಜಿಲ್ಲೆ (ಅಖಿಂಡ ಜಿಲ್ಲೆ)ಯ ಲೇಖಕರ ಹೆಸರೇನು ?

   (h) ಸ್ತ್ರೀವಾದಿ ಚಿಂತನೆಯು ಯಾವ ಸಮುದಾಯದ ಅಸ್ಥಿತ್ವದ ಕುರಿತು ವಿಶ್ಲೇಷಣೆ ಮಾಡುತ್ತದೆ ?

   (i) 'ಸಮಾಜವಾದ ಶುದ್ಧ ಸಮಾಜದೆಡೆಗೆ' ಲೇಖನದ ಮೂಲ ಲೇಖಕರ ಹೆಸರೇನು ?

   (j) ಮಹಾತ್ಮ ಗಾಂಧೀಜಿ ಅವರ ಆತ್ಮಕಥೆಯ ಹೆಸರೇನು ?

ವಿಭಾಗ – ಬಿ

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

2. 'ಭರತ ಮಾತೆಯ ನುಡಿ' ಕವನದ ಆಶಯವನ್ನು ಬರೆಯಿರಿ.

3. ಡಾ. ಜಿ.ಎಸ್. ಶಿವರುದ್ರಪ್ಪನವರು ಬರೆದ 'ಸ್ತ್ರೀ' ಕವನದಲ್ಲಿ ಸ್ತ್ರೀಯನ್ನು ವರ್ಣಿಸಿರುವ ಬಗೆಯನ್ನು ತಿಳಿಸಿರಿ.

4. ಹದಿಹರೆಯದವರನ್ನು ಕುರಿತು ಪಿ. ಲಂಕೇಶ್ ಅವರ ಅಭಿಪ್ರಾಯವನ್ನು ತಿಳಿಸಿರಿ.

5. 'ನೆಗಡಿಯೊಂದು ಪ್ರಮುಖ ಕಾಯಿಲೆ' ಎಂಬ ಹೇಳಿಕೆಯನ್ನು ತೀ.ನಂ.ಶ್ರೀ. ಯವರ 'ನೆಗಡಿ' ಲೇಖನದ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ವಿವರಿಸಿರಿ.

P.T.O.

6. ಸತ್ಯಾಗ್ರಹ ಮತ್ತು ಸರ್ವೋದಯದ ಬಗ್ಗೆ ಗಾಂಧೀಜಿಯವರ ಅಭಿಪ್ರಾಯವೇನು ? ವಿವರಿಸಿರಿ.

7. ನಿಮಗೆ ನೀಡಲಾದ ತತ್ವಪದಗಳ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ತತ್ವಪದಕಾರರ ಚಿಂತನೆಗಳನ್ನು ಕುರಿತು ಬರೆಯಿರಿ.

ವಿಭಾಗ – ಸಿ

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

8. ಕನ್ನಡವು ಎದುರಿಸುತ್ತಿರುವ ಆತಂಕಗಳನ್ನು ಸವಿಸ್ತಾರವಾಗಿ ಬರೆಯಿರಿ.

9. ಪರಿಸರದ ಕುರಿತು 'ಇರುವುದೊಂದೆ ಭೂಮಿ' ಲೇಖನದಲ್ಲಿ ವ್ಯಕ್ತವಾದ ಕಾಳಜಿಯನ್ನು ಕುರಿತು ವಿವರಣೆ ನೀಡಿರಿ.

10. ಸಣ್ಣ ಮತ್ತು ಅತಿ ಸಣ್ಣ ರೈತರ ಮೇಲೆ ಕೊರೋನ ಉಂಟುಮಾಡಿದ ಪರಿಣಾಮಗಳ ಕುರಿತು ಬರೆಯಿರಿ.

11. ಸ್ತ್ರೀವಾದಿ ತತ್ವದ ಉದ್ದೇಶ ಮತ್ತು ಅಧ್ಯಯನದ ಅವಶ್ಯಕತೆ ಕುರಿತು ಬರೆಯಿರಿ.

12. ಸಮಾಜವಾದದ ಬೆಳವಣಿಗೆಯನ್ನು ಎರಿಕ್ ಫ್ರಾಂ ಅವರ ಲೇಖನದ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ವಿವರಿಸಿರಿ.

-oOo-

No. of Printed Pages : 4

46102

102098

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

AECC-2 ENGLISH

BASIC ENGLISH

Time : 3 Hours | Maximum Marks : 60

SECTION - A

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

(a) Who is the poet of 'The Mask' ?

(b) Mention any two characters from the short story 'Tar comes'.

(c) Who have seething brains and shaping fantasies in the poem. 'The Lunatic, the Lover and the Poet ?

(d) Who is the protagonist of the short story 'The Child' ?

(e) Translate to English.

ಆರೋಗ್ಯವೇ ಭಾಗ್ಯ.

(f) Translate to English.

ಸಾಮಾಜಿಕ ಅಂತರವನ್ನು ಕಾಯ್ದುಕೊಳ್ಳಿ.

(g) What is 'Data Interpretation ?

(h) Mention any two sources of information.

(i) Use the correct form of verb :

Geetha _____ (Presenting/Presented) a gift to her brother.

(j) It _____ (be) (was/were) cold yesterday.

SECTION - B

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

2. How does Maya Angelou describe the bird and its plights ?

3. Give a character sketch of Gangu.

P.T.O.

4. Read the following passage and answer the questions.

Washoe, a female Chimpanzee who was the first non-human to learn human sign language. She was caught in African forest and got trained for ten months by biologists. Chimpanzees were choosen for this study because they are very intelligent and social animals. However, there is a disadvantage with chimp is that it does not possess vocal apparatus that would allow the production of human speech. Further, as part of a research experiment to teach human language to animals is supported by biologists Allen and Beatrice Gardener. The Gardeners were successful in teaching Washoe 350 signs.

(a) What did Washoe learn ?

(b) Where was Washoe caught ?

(c) Who were the Gardneres ? Name them.

(d) What is the disadvantage of chimp ?

(e) 'She got trained for ten months'. Here she refers to _____.

5. Translate the following paragraph to English.

ಇಂದಿನ ವಿದ್ಯಾರ್ಥಿಗಳು ಭಾರತದ ನಾಳಿನ ಪ್ರಜೆಗಳು. ಅವರು ಸ್ವತಂತ್ರ ಮತ್ತು ಆಧುನಿಕ ಭಾರತದ ಕಂಬಗಳು. ದೇಶವನ್ನು ಕಟ್ಟುವ ದೊಡ್ಡ ಜವಾಬ್ದಾರಿಯು ವಿದ್ಯಾರ್ಥಿಗಳ ಹೆಗಲಮೇಲಿದೆ. ಯಾವುದೇ ಸೆನ್ನಿವೇಶವನ್ನು ಆತ್ಮವಿಶ್ವಾಸ ಮತ್ತು ಯಶಸ್ಸಿನ ಸಹಿತವಾಗಿ ಎದುರಿಸಬೇಕು ಎಂದರೆ ವಿದ್ಯಾರ್ಥಿಗಳು ಶಿಸ್ತಿನ ಅಭ್ಯಾಸಗಳನ್ನು ಕಲಿಯಬೇಕು. ವಿದ್ಯಾರ್ಥಿಗಳು ಮಾನವೀಯ ಮೌಲ್ಯಗಳನ್ನು ರೂಢಿಸಿಕೊಳ್ಳಬೇಕು.

6. Fill in the blanks with appropriate verb forms.

Dear Mom,

I am having a wonderful time. Last night I _____ (go) to the Hollywood Movie, with some friends. We _____ (take) a special bus and _____ (get) there easily. A friend _____ (buy) fruits. After the movie we _____ (return) home happily.

Love, Kris.

7. Write a note on the power of imagination in the poem "The Lunatic, the lover and the poet".

SECTION - C

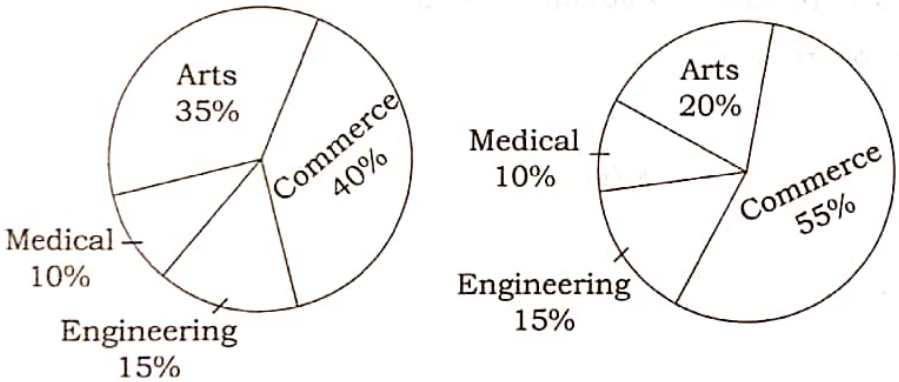
Answer **any three** of the following questions, each question carries **ten** marks. **3x10=30**

8. Why does William Wordsworth consider 'Nature to be a good Teacher' in the poem "The Tables Turned" ? Explain.

9. Discuss the significance of the title "The Death of a Hero" by Jai Nimbkar critically.

10. Write a detailed report on the following pie charts.

The following pie charts represent the information about students who got scholarship during 2013-14 and 2014-15 academic years for different courses. Use the following data to interpret.



11. Translate the following both paragraphs as directed.

(a) Translate : Kannada to English

ನಾನು ರಾಘವ. ನನ್ನ ಕುಟುಂಬ ಚಿಕ್ಕದು. ನಾವು ಹಳ್ಳಿಯಲ್ಲಿ ವಾಸಿಸುತ್ತೇವೆ. ನನ್ನ ತಂದೆ ಒಬ್ಬ ಒಳ್ಳೆಯ ಕೃಷಿಕ. ನನ್ನ ತಾಯಿ ಗೃಹಿಣಿ. ನನಗೆ ಶಿಕ್ಷಣವನ್ನು ನೀಡುವದು ನನ್ನ ಪಾಲಕರ ಗುರಿ.

(b) Translate : English to Kannada.

Sharma is a worker at a bank. He earns 1,50,000 rupees per year. He saves 60,000 rupees for his daughter's education. His daughter's age is 15. She is an active and talented girl.

12. Do as directed :

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

(i) A sheep _____ (is/are) grazing in the field.

(ii) My teeth _____ (is/are) healthy.

(iii) They _____ (are/were) in Delhi last year.

(iv) We _____ (have/are) been playing since morning.

(b) Identify Transitive and Intransitive sentences.

(i) I wrote a letter.

(ii) He walked in the garden.

(iii) She laughs beautifuly.

(c) Identify the finite and infinite verbs and underline the same.

(i) She worked hard to pass the test.

(ii) The students were asked to submit assignments.

(iii) They fought for freedom.

- o O o -

No. of Printed Pages : 2

46103

100135

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

HINDI BASIC (AECC)

Paper No. 01 - The Study Of Indian Languages

Time : 3 Hours | Maximum Marks : 60

Instructions : *सुंदर लिखावट करना जरूरी है। देवनागरी लिपी में उत्तर दें।*

Text – कहानी कुंज और काव्य पारासर।

I. किन्हीं दस प्रश्नों के उत्तर लिखिए। **10x1=10**

1. सत्याग्रह किससे रचित कहानी है?
2. सालवती कहानी के कहानीकार कौन हैं?
3. 'तावीज़' कहानी को किस भाषा से हिंदी में अनुवाद किया गया है?
4. 'मोटेराम' किस कहानी का पात्र है?
5. 'काव्य पारासर' किस प्रकाशन से प्रकाशित हैं?
6. 'बांदी' किस कहानी का पात्र है?
7. ''तीन कविताएँ'' कविताओं के कवि कौन हैं?
8. ''बम'' शब्द किस कविता में प्रयोग किया गया है?
9. विकारी शब्द क्या हैं?
10. संज्ञा किसे कहते हैं?
11. सर्वनाम किसे कहते हैं?

II. A. किन्हीं दो के संदर्भ सहित लिखिए। **2x5=10**

1. ''आपने भी तो बैठे-बैठाये झंझट मोल ले लिया। प्राण ही न रहेंगे तो धन किस काम आएगा।''
2. ''देखो गणे गुड्डा वाली करिमय्या की महिमा।''
3. बम फटने का दुख तो होता है पर उतना ज्यादा नहीं, चाय के ठंडे होने का दुःख जितना।
4. गरीब का आज भी आत्मा पर भरोसा है, जब कुछ नहीं मिलता तो उसीको टोकरी में रखकर वह सूदखोर के पास जाता है।

P.T.O.

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

1. तावीज़ कहानी के प्रमुख अंशों को लिखिए।

2. 'दुखवा मैं कासे कहूँ' कथा का सार संक्षेप में लिखिए।

3. 'सापेक्ष संवेदना' कविता में चित्रित मनुज के मनोदशा की स्थिति का परिचय दीजिए।

4. 'धारा' कविता का सारांश संक्षेप में लिखिए।

III. किन्हीं तीन प्रश्नों के उत्तर लिखिए (अंतिम प्रश्न **अनिवार्य** है)। 3x10=30

1. 'सत्याग्रह - प्रेमचंद की अनमोल कहानी है।' स्पष्ट कीजिए।

2. सालवती एक ऐतिहासिक कहानी है समर्थन कीजिए।

3. नियम कविता का आशय स्पष्ट कीजिए।

4. हिंदी में अनुवाद कीजिए।

ಕಬೀರರು ಭಗವಂತನಲ್ಲಿ ಕೇಳಿಕೊಳ್ಳುವುದೇನೆಂದರೆ ನಮಗೆ ಕುಟಂಬವನ್ನು ಪೋಷಿಸಲು ಎಷ್ಟುಬೇಕೋ ಅಷ್ಟು ಕೊಟ್ಟರೆ ಸಾಕು, ನಾವೂ ಹಸಿದಿರಬಾರದು ಸಾದುಸಂತರೂ ಹಸಿದು ಹೋಗಿರಬಾರದು ಅಂದರೆ ದೇವರು ನಮಗೆ ಎಷ್ಟು ಕೊಡುತ್ತಾನೊ ಅಷ್ಟಕ್ಕೆ ತೃಪ್ತಿ ಪಡಬೇಕು ಅದಕ್ಕಿಂತಾ ಹೆಚ್ಚು ಕೂಡಿಡುವುದು ವಳ್ಳೆಯದಲ್ಲ.

The Poet Kabir stresses contentment in life only can bring happiness, one should not accumulate wealth, he should have only as much as to fulfill his basic needs, this is what he prays to God.

- o O o -

No. of Printed Pages : 2

46122

100550

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

BOTANY

Microbial Diversity

Time : 3 Hours | Maximum Marks : 60

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

(ii) Draw diagram wherever necessary.

SECTION - A

1. Answer the following Questions. **10x1=10**
   (a) What are Soridia ?
   (b) What is hyphae ?
   (c) Name the casual-organism of Citrus Canker.
   (d) What is synthetic media ?
   (e) What is pasteurization ?
   (f) Expand term SEM.
   (g) What are Heterotrophs ?
   (h) What are prions ?
   (i) What is Lycophilization ?
   (j) What are plasmids ?

SECTION - B

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

2. Write a note on nutritional types of microbes.

3. Write the contribution of Leeuenhock in brief.

4. What are Lichens ? Write the Economic Importance of Lichens.

5. Explain the asexual reproduction of penicillium.

6. Describe the ultrastructure of T.M.V with neat labelled diagram.

7. Write the role of Bacteria in nitrogen fixation.

P.T.O.

SECTION - C

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

8. Write a note on :
   (a) Gram's Staining Technique
   (b) SEM and TEM

9. Explain the life cycle of Rhizopus with Schematic representation.

10. Name the casual - organism, symptoms and control measures of Citrus Canker.

11. Explain the cultivation of viruses, vaccination and types.

12. What is culture media ? Explain different types of culture media.

-oOo-

No. of Printed Pages : 2

46129

100631

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

ZOOLOGY

Cytology, Genetics and Infectious diseases.

Time : 03 Hours | Maximum Marks : 60

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

SECTION - A

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

1. (a) Mention the types of Cell Signalling.
   (b) What is incomplete dominance ?
   (c) What do you mean by Syndrome ?
   (d) In which stage of meiosis synapsis takes place.
   (e) Define Co-dominance.
   (f) Expand CAMs and ECM.
   (g) What is Cytoplasmic inheritance ?
   (h) What is Apoptosis ?
   (i) Define Pathogen.
   (j) Define Epistasis.

SECTION - B

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

2. Write a short note on multiple alleles.

3. Explain briefly about the types and functions of Lysosomes.

4. Explain the ultra structure of a Chromosome with the help of neat labelled diagram.

5. Explain the ultra structure of nucleus and its functions.

6. Explain First law of Mendel with example.

7. Write a short note on Down's Syndrome and Turner's Syndrome.

P.T.O.

SECTION - C

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

8. Describe the effects of environment on gene expression.

9. With the help of labelled diagram, explain the Ultra Structure of mitochondria. Add a note on its functions.

10. Explain genic balance theory of C.B. Bridges.

11. Explain Watson and Crick model of DNA with a neat labelled diagram.

12. Describe the life cycle and pathogenisity of Wuchararia bancrofti.

- o O o -

No. of Printed Pages : 3

46126

100990

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

MATHEMATICS

Paper No. 1 DSC - 1 - Fundamentals of Algebra and Calculus

Time : 3 Hours | Maximum Marks : 60

Instruction : *(i) Answer **all** questions from **Section-A.***
*(ii) Answer **any four** questions from **Section-B.***
*(iii) Answer **any two** full questions from **Section-C.***

SECTION - A

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

(a) Define Eigen value and Eigen vector of a square matrix.

(b) Find the Rank of the Square Matrix A.

Where, $A=\begin{bmatrix}1 & 2 & 3\\ 2 & 3 & 4\\ 3 & 4 & 5\end{bmatrix}$.

(c) Find the Angle between radius vector and the tangent for $r^2=a^2.\cos 2\theta$.

(d) Find the radius of curvature of the curve $y=4\sin x-\sin 2x$ at $x=\frac{\pi}{2}$.

(e) Find the left hand and right hand limits of $f(x)=|x|$ As x tends to 0.

(f) State Rolle's Theorem.

(g) Find the n^{th} derivative of $\sin^3 x$.

(h) If $y=\log(x^2-4)$, then find y_n.

(i) State Cayley - Hamilton Theorem.

(j) Evaluate : $\lim_{x\to 0}\frac{e^x-e^{-x}-2x}{x^2.\sin x}$.

P.T.O.

SECTION - B

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

2. Using Cayley - Hamilton's Theorem find A^{-1} if, $A = \begin{bmatrix} 1 & 0 & -1 \\ 1 & 2 & 1 \\ 2 & 2 & 3 \end{bmatrix}$.

3. Show that the pair of Circles Intersect Orthogonally :
$r^n = a^n.\cos n\theta$, $r^n = b^n.\sin n\theta$.

4. Verify Lagrange's Mean Value Theorem for $f(x) = x^2 - 3x - 2$ in $[-2, 3]$.

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

6. Find the evolute of the parabola $y^2 = 4ax$.

7. Find the real values of λ, for which the system,
$x + 2y + 3z = \lambda x$
$3x + y + 2z = \lambda y$
$2x + 3y + z = \lambda z$.
have non-zero solutions.

SECTION - C

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

8. (a) Reduce the Matrix A to its normal form where, **5**

$$A = \begin{bmatrix} 2 & -2 & 0 & 6 \\ 4 & 2 & 0 & 2 \\ 1 & -1 & 0 & 3 \\ 1 & -2 & 1 & 2 \end{bmatrix}.$$

And hence find the Rank of Matrix.

(b) Verify the following system of equations is consistent. Solve if consistent. **5**
$x + 2y - z = 1$
$3x + 8y + 2z = 28$
$4x + 9y - z = 14$

9. (a) Find the angle of intersection of the pair of curves. 5
$r = \sin\theta + \cos\theta$ and $r = 2\sin\theta$.

(b) Derive derivative of Arcs in cartisian form and parametric form. 5

10. (a) State and prove Cauchy's Mean Value Theorem (Second Mean Value Theorem). 6

(b) Obtain expansion of e^x as an infinite series (Mac Laurin's) 4

11. (a) State and prove Leibnitz Theorem. 4

(b) Trace the curve $y^2(a-x) = x^3$, $a > 0$. 6

12. (a) Show that the pair of curves intersect orthogonally. 6
$r = a(1+\sin\theta)$, $r = b(1-\sin\theta)$

(b) Find the Pedal equation $(p-r)$ equation of the curve. 4
$r = a(1-\cos\theta)$

- o O o -

No. of Printed Pages : **2**

46123

101262

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

CHEMISTRY

Paper No. DSC - 1 : Fundamental of Chemistry

Time : 3 Hours | Maximum Marks : 60

SECTION - A

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

(a) What is empirical formula ? **1**

(b) Define Molarity. **1**

(c) State Heisenberg's uncertainty principle. **1**

(d) Give Hund's rule of maximum multiplicity. **1**

(e) What is the influence of hybridization on bond properties ? **1**

(f) What is electromeric effect ? **1**

(g) What are ideal and real gases ? **1**

(h) Define parachor. **1**

(i) Mention any one indicator used in redox titrations. **1**

(j) Give the one advantage of organic reagents over inorganic reagents. **1**

SECTION - B

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

2. Explain the importance and scope of Chemistry. **5**

3. Write a note on Bohr's Atomic Model. **5**

4. Discuss the strengths of organic acids and bases with factors effecting pK values. **5**

5. Write Vander Waal's equation and discuss it's application in explaining the behaviour of real gases. **5**

P.T.O.

6. Explain the factors influencing precipitation in gravimetric analysis. 5

7. Give the mechanism of ozonolysis of propene. 5

SECTION - C

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

8. (a) Discuss the Do's and Dont's in Chemistry laboratory. 6
   (b) Define Normality and Mole fraction with an example. 4

9. (a) Describe the shapes of s, p and d orbitals with neat diagram. 6
   (b) Discuss the physical significance of ψ and ψ^2. 4

10. (a) Give the mechanism of E1 and E2 reaction. 6
    (b) Explain sp^3 hybridisation with an example. 4

11. (a) Define surface tension and write it's determination by using stalagmometer. 6
    (b) Define Viscosity and write it's determination by using Ostwald Viscometer. 4

12. (a) Discuss the titration curves for strong acid vs strong base, weak acid vs strong base. 6
    (b) Explain Mohr's method for the determination of chloride ion. 4

- o O o -

No. of Printed Pages : 2

46128

101612

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

PHYSICS (DSC1)

Paper No. 01 - Mechanics and properties of matter

Time : 3 Hours | Maximum Marks : 60

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

SECTION - A

1. Answer the following sub-questions each sub-question carries **one** mark. **10x1=10**
   (a) Define Non-Inertial Frame of Reference.
   (b) What is Fitzerald contraction ?
   (c) What is Inelastic Collision.
   (d) Mention one example for Law of Conservation of Energy.
   (e) Mention S.I unit of moment of Inertia.
   (f) Define Radius of Gyration.
   (g) State Hook's Law.
   (h) Justify why steel is more Elastic than Rubber.
   (i) Define Terminal Velocity.
   (j) Define co-efficient of Viscosity of a liquid.

SECTION - B

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

2. Show that velocity is variant under Galilian Transformation Equations.

3. Derive the relation between Momentum and Torque.

4. State and prove perpendicular axis theorem.

5. Distinguish between streamline flow and turbulant flow.

6. Derive workdone in Twisting a wire.

7. Give the Necessary Theory of Flywheel.

P.T.O.

SECTION - C

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

8. (a) Derive Einstein's Energy mass relation. **7+3**

   (b) Find the rest energy of an electron in Joule and in eV.

9. Derive loss of K.E of collision of two particles stick together. **10**

10. (a) Deduce expression for moment of inertia of circular disc about an axis passing through its centre. **7+3**

    (b) A flywheel of Mass 500 kg and diameter 2 m takes 600 revolutions per minute. Find the moment of inertia of a Flywheel.

11. (a) Derive relation between Young's modulus, Bulk modulus and Rigidity modulus of Elasticity. **7+3**

    (b) A metalic rod of length 0.5 m, breadth 0.03 m and thickness 3 mm is clamped at one end and loaded at other end with 4 kg. Find Young's modulus if it depresses through 0.06m and $g=9.8\ m/s^2$.

12. Derive expression for co-efficient of viscosity of a Liquid by Poiseuile's method. **10**

- o O o -

No. of Printed Pages : **8**

92102

Question Booklet Code
B

Question Booklet Serial Number: 207478

B.C.A./B.Com./B.Sc. I Semester Degree Examination, March/April - 2022

Ability Enhancement Compulsory Courses (AECC)

COMPUTER SCIENCE

Digital Fluency

Time : 1 Hour | Maximum Marks : 30

INSTRUCTIONS TO CANDIDATES

1. The Question Paper will be given in the form of a Question Booklet. There will be four/two versions of Question Booklets with Question Booklet Code viz. **A**, **B**, **C** & **D** / **A** & **B**.
2. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your Question Booklet is un-numbered, please get it replaced by new Question Booklet with same Code.
3. Immediately after the commencement of the examination, the candidate should check that the Question Booklet supplied to him contains all the 30 questions in serial order. The Question Booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same Code. This is most important.
4. A blank sheet of paper is attached to the Question Booklet. This may be used for Rough Work.
5. **Please read carefully all the instructions on the top of the Answer Sheet before marking your answers.**
6. Each question is provided with four choices **(A)**, **(B)**, **(C)** and **(D)** having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using **Black Ball-Point Pen** in the OMR Answer Sheet.
7. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator.
8. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.
9. First fifteen minutes is provided to fill the general information of the Student. Eg. Student Name, Student ID, etc. in the OMR Answer Sheet
10. Without the instruction of the Invigilator do not open the Question Paper Booklet Seal.

1. Which is the first stage in every IoT architecture ?

(A) Sensors and Actuators

(B) Internet gateways and Data Acquisition systems

(C) Edge IT

(D) Data center and cloud

2. Choose the correct example of oral communication.

(A) Reports (B) Newspapers

(C) Face-to-Face conversation (D) Notes

3. IoT stands for :

(A) Introduction of Things (B) Internet of Things

(C) Internet of Tracking (D) Interaction of Things

4. What is the first step to solving a problem ?

(A) Generating alternatives (B) Defining the problem

(C) Selecting alternatives (D) Making a decision

5. Firewalls are used to protect _____.

(A) Fire attacks (B) Virus attacks

(C) Unauthorised access (D) Data driven attacks

6. What does the word cloud represent in cloud computing ?

(A) Internet (B) Wireless

(C) Data (D) Disk

7. Which of the following is a type of cyber security ?

(A) Cloud security
(B) Network security
(C) Application security
(D) All of the above

8. Which of the following is considered as the unsolicited commercial e-mail ?

(A) Virus
(B) Malware
(C) Spam
(D) All of the above

9. Which is an open - source Relational Database Management System (RDBMS) with a client - server model ?

(A) Oracle
(B) MySQL
(C) MS-Access
(D) None of the above

10. Who is the father of cloud computing ?

(A) Sharon B. Codd
(B) Edgar Frank Codd
(C) J.C.R. Licklider
(D) Charles Bachman

11. Communication is a non-stop _____.

(A) Paper
(B) Process
(C) Programme
(D) Plan

12. Machine Learning is a subset of _____.

(A) Deep Learning
(B) Artificial Intelligence
(C) Data Learning
(D) None of the above

13. Which service permits the changes to the IoT services ?

(A) Update
(B) Registered service status
(C) Enable from suspension
(D) Enable

14. Mongo DB is a _____ database.

(A) SQL
(B) DBMS
(C) No SQL
(D) RDBMS

15. What is key step in Teamwork ?

(A) Leadership
(B) Responsibility
(C) Organization
(D) All of the above

16. _____ includes sounds, words, language and speech.

(A) Verbal Communication
(B) Non-Verbal Communication
(C) Both of the above
(D) None of the above

17. An example of PaaS is :

(A) Rackspace cloud
(B) Mosso
(C) Amazon EC2
(D) G-mail

18. The word 'Communication' has been derived from _____.

(A) Greek
(B) Latin
(C) German
(D) French

19. Which of the following is a type of cyber-attack ?

(A) Phishing
(B) SQL Injections
(C) Password Attack
(D) All of the above

20. Understanding of human needs happens at the stage of :

(A) Testing
(B) Prototyping
(C) Empathizing
(D) None of the above

21. AI stands for _____.

(A) Aircraft Intelligent
(B) Artificial Intelligence
(C) Aerial Intelligence
(D) Advanced Internet

22. What is abbreviation of DBMS ?

(A) Data Base Management System
(B) Data Base Mining Source
(C) Data Base Management Schema
(D) Data Base Manipulation Schema

23. Which type of Neural Network is used by Stock Market Indices ?

(A) LSVM
(B) NSTM
(C) LSTM
(D) ANSI

24. _____ is the essential concept related to cloud.

(A) Reliability
(B) Abstraction
(C) Productivity
(D) None of the above

25. Customer segmentation and differential pricing strategy can be easily achieved through _____.

(A) Big Data Analytics
(B) Web Pages
(C) Browsers
(D) Hardwares

26. Self-driving cars usually use limited memory technology to :

(A) Store Data
(B) Automate
(C) Detect Motion
(D) None of the above

27. It is important to have a good _____ to be successful in your career.

(A) Attitude
(B) Clothes
(C) Attendance
(D) Shoes

28. _____ shows the process of creating something new.

(A) Innovation
(B) Business model
(C) Modeling
(D) Creative flexibly

29. Our dress code is an example of _____ communication.

(A) Verbal
(B) Non-Verbal
(C) Written
(D) Spoken

30. _____ attacks are real threats to IIoT.

(A) Distributed Denial of Service (DDoS)
(B) Worms
(C) Ransomware
(D) Virus

- o 0 o -