

SEMESTER EXAMINATION, DECEMBER-2024

Course Name: B.Tech.

Semester: 1st

Paper Name: Engineering Mathematics

Paper Code: NBS-102

Time: 3 Hrs. + 20 Minutes per hour extra for V.I.
and examinees with writer. Additional
30 Minutes for Mid-Test

Max. Marks: 70

समय - 3 घण्टे + 20 मिनट प्रति घण्टे अतिरिक्त दृष्टिबाधित एवं अधिकतम अंक: 70
सहलेखक परीक्षार्थियों के लिए। मिड टेस्ट के लिए 30 मिनट अतिरिक्त

Instructions:

- (i) The question paper consists of three Sections namely A, B and C. All Sections are compulsory.
- (ii) Section-A – Each question carries 3 marks. All questions are compulsory.
- (iii) Section-B – Answer any 5 out of 7 given questions in maximum one hundred fifty (150) words. Each question carries 07 marks.
- (iv) Section-C – Answer any 2 out of 3 given questions in maximum three hundred (300) words. Each question carries 10 marks.
- (v) Section-D – All questions are compulsory.

निर्देश:

- (i) प्रश्न-पत्र में तीन खण्ड अ, ब व स हैं। सभी खण्ड अनिवार्य हैं।
- (ii) खण्ड-अ में प्रत्येक प्रश्न 03 अंकों का है। सभी प्रश्न अनिवार्य हैं।
- (iii) खण्ड-ब में 07 प्रश्नों में से किन्हीं 05 प्रश्नों के उत्तर अधिकतम 150 शब्दों में दीजिये। प्रत्येक प्रश्न 07 अंकों का है।
- (iv) खण्ड-स में 03 प्रश्नों में से किन्हीं 02 प्रश्नों के उत्तर अधिकतम 300 शब्दों में दीजिये। प्रत्येक प्रश्न 10 अंकों का है।
- (v) खण्ड-द में सभी प्रश्न अनिवार्य हैं।

Section-A (खण्ड-अ)

Objective Questions (वस्तुनिष्ठ प्रश्न)

1. Answer all the following questions:

(3×5=15)

निम्नलिखित सभी प्रश्न अनिवार्य हैं:

(i) The differential equation $Mdx + Ndy$ is exact if:

(A) $\frac{\partial M}{\partial N} = \frac{\partial N}{\partial y}$

(B) $\frac{\partial M}{\partial y} = \frac{\partial N}{\partial x}$

(C) $\frac{\partial M}{\partial y} + \frac{\partial N}{\partial x} = 0$

(D) $\frac{\partial M}{\partial y} = \frac{\partial N}{\partial M}$

(ii) The value of $\int_0^\infty e^{-3x} x^7 dx$ is:

(A) $\frac{7}{3^8}$

(B) $\frac{8}{3^8}$

(C) $\frac{3}{7^3}$

(D) $\frac{3}{8^3}$

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(1)

(iii) The value of grad r is:

- (A) r^2
- (B) r
- (C) \vec{r}
- (D) None of these

(iv) The Rank of matrix $A = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 3 & 5 & 7 \end{bmatrix}$ is:

- (A) 3
- (B) 2
- (C) 1
- (D) 4

(v) If $U = \sin^{-1} \frac{x}{y} + \tan^{-1} \frac{y}{x}$ then the value of $x \frac{\partial U}{\partial x} + y \frac{\partial U}{\partial y}$ is:

- (A) 0
- (B) $\frac{x}{y}$
- (C) $\frac{y}{x}$
- (D) None of these

Section-B (खण्ड-ब)

Short Answer Questions (लघुउत्तरीय प्रश्न)

2. Answer any five of the following questions in maximum 150 words:

(7×5=35)

निम्नलिखित में से किन्हीं पाँच प्रश्नों के उत्तर अधिकतम 150 शब्दों में दीजिये:

(i) If $y = a \cos \log x + b \sin \log x$ then show that $x^2 y_{n+2} + (2n+1)xy_{n+1} + (n^2+1)y_n = 0$.

(ii) Solve the following system of equation:

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

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

$$4x - y + 2z = 0$$

(iii) Show that $\vec{f} = (6xy + z^3)\vec{i} + (3x^2 - z)\vec{j} + (3xz^2 - y)\vec{k}$ irrotational. Hence find the corresponding scalar function ϕ such that $\vec{f} = \text{grad } \phi$.

(iv) Solve $(D^2 - 4D + 4)y = x^3 e^{2x}$

- (v) Evaluate $\int_0^\infty \int_x^\infty \frac{e^{-y}}{y} dx dy$
- (vi) Show that the system of three vectors $(1, 2, 0)$, $(0, 3, 1)$ and $(-1, 0, 1)$ is L.I. in $V_3(Q)$ where Q is a field of rational numbers.
- (vii) Find the n^{th} differential coefficient of $y = \tan^{-1}\left(\frac{x}{a}\right)$.

Section-C (खण्ड-स)

Descriptive Questions (विवरणात्मक प्रश्न)

3. Answer any two of the following questions in maximum 300 words: (10×2=20)
निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर अधिकतम 300 शब्दों में दीजिये:

- (i) Find the characteristic equation of the symmetric matrix $A = \begin{bmatrix} 2 & -1 & 1 \\ -1 & 5 & -1 \\ 1 & -1 & 2 \end{bmatrix}$ and verify that it

is satisfied by A and hence obtain A^{-1} . Express:

- (a) $A^6 - 6A^5 + 9A^4 - 2A^3 - 12A^2 + 23A - 9I$
- (b) $A^5 - 5A^4 + 3A^3 + 6A^2 - 6A + 2I$ as linear polynomial in A .
- (ii) (a) Solve $\int_0^{\log 2} \int_0^x \int_0^{x+y} e^{x+y+z} dx dy dz$
- (b) Expand $\tan\left(x + \frac{\pi}{4}\right)$ as far as the term x^4 and evaluate $\tan 46.5^\circ$ to four significant digits.
- (iii) (a) Verify Divergence theorem, given that $\vec{F} = 4xz\vec{i} - y^2\vec{j} + yz\vec{k}$ and s is the surface of the cube bounded by the planes $x = 0, x = 1, y = 0, y = 1, z = 0, z = 1$.
- (b) Evaluate by Stoke's theorem $\vec{F} = y^2\vec{i} + x^2\vec{j} - (x+z)\vec{k}$ and c is the boundary of the Triangle with vertices at $(0, 0, 0)$, $(1, 0, 0)$ and $(1, 1, 0)$.

Mid-Test

Section-D (खण्ड-द)

All questions are compulsory and each carry 2 marks.

सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न के अंक 2 हैं।

1. The value of curl $\text{grad } \phi$ is:
- (A) $\text{div } \phi$
- (B) $\text{grad } \phi$
- (C) ϕ
- (D) None of these

2. The maximum value of the directional derivative of $\phi = xyz^2$ at point $(1, 0, 3)$ is:
(A) 7
(B) 8
(C) 9
(D) None of these ✓
3. If $y = x^n \log x$ then the value of y_{n+1} is:
(A) $\frac{Ln}{x}$
(B) $\frac{Ln}{x^2}$
(C) $\frac{Ln+1}{x^2}$
(D) None of these
4. The n th derivative of 2^x is:
(A) $2^x \log 2$
(B) $n(\log 2)2^x$
(C) 2^x
(D) None of these
5. The value of $\int_0^1 \int_0^{x^2} e^{y/x} dy dx$ is:
(A) $\frac{1}{2}$
(B) $\frac{1}{3}$
(C) $\frac{1}{4}$
(D) None of these
6. The value of $\Gamma 3/2$ is:
(A) $\sqrt{\pi}$
(B) $\frac{\pi}{2}$
(C) π
(D) None of these

The Rank of matrix $A = \begin{bmatrix} 1 & 1 & 1 \\ 0 & 1 & 1 \\ 1 & 0 & 1 \end{bmatrix}$ is:

- (A) 1
- (B) 2
- (C) 3
- (D) None of these

8. The Eigen values of the matrix $A = \begin{bmatrix} 3 & 1 & 4 \\ 0 & 2 & 6 \\ 0 & 0 & 5 \end{bmatrix}$ is:

- (A) (2, 2, 5)
- (B) (2, 7, 9)
- (C) (2, 7, 11)
- (D) None of these

9. The degree of the differential equation:

$$\left(\frac{d^3 y}{dx^3} \right)^{2/3} + 4 - 3 \frac{d^2 y}{dx^2} + 5 \frac{dy}{dx} = 0 \text{ is:}$$

- (A) One
- (B) Second
- (C) Third
- (D) None of these

10. If $\frac{d^2 y}{dx^2} + 16y = 0$ then y is:

- (A) $y = C_1 \cos 2x + C_2 \sin 2x$
- (B) $y = C_1 \cos 4x + C_2 \sin 4x$
- (C) $y = 16$
- (D) None of these

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SEMESTER EXAMINATION DECEMBER-2024

Course Name: -B.TECH

Semester:- I

Paper Name: -PROFESSIONAL COMMUNICATION

Paper Code:-NHS-101

Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer.

Max Marks-70

समय- 3 घण्टे + 20 मिनट प्रति घंटे अतिरिक्त-दृष्टिगतित एवं सार लेखक परीक्षार्थियों के लिए।

अधिकतम अंक-70

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries 3 mark. All questions are compulsory.
- Section B- Answer any 5 out of 7 given questions.
Each question carries 7 marks.
- Section C- Answer any 2 out of 3 given questions.
Each question carries 10 marks.

निर्देश:

- प्रश्न पत्र में तीन खण्ड अ, ब, व स हैं। सभी खण्ड अनिवार्य हैं।
- खण्ड-अ में प्रत्येक प्रश्न **तीन अंक** का है। **सभी प्रश्न अनिवार्य हैं।**
- खण्ड-ब में **सात प्रश्नों में से किन्हीं पाँच** प्रश्नों के उत्तर दें। प्रत्येक प्रश्न **सात अंक** का है।
- खण्ड-स में **तीन प्रश्नों में से किन्हीं दो** प्रश्नों के उत्तर दें। प्रत्येक प्रश्न **10 अंक** का है।

Section - A (खण्ड-अ)

Objective Questions (वस्तुनिष्ठ प्रश्न)

1. Answer all the following questions.

5x3=15

- Find the synonym of the word- 'Curtail':
 - unreal
 - practical
 - diminish
 - useless
- Select the correct prefix for the word, wrap.
 - im
 - in
 - un
 - pre
- Downward communication flows from-
 - Top to bottom
 - Bottom to top
 - Both ways
 - Horizontally
- The form of informal communication is-
 - Grapevine
 - Professional
 - Both
 - None
- Let us go to our restaurant and have – coffee.
 - A
 - an
 - the
 - No article

Section – B (छात्र-ए)
Short Answer Questions (क्षुब्धतरीख प्रश्न)

2. Answer any five of the following questions.

5x7=35

निम्नलिखित में से किन्हीं पाँच प्रश्नों के उत्तर दें।

- i. What is the difference between Resume and CV? How it can affect the process of interview?
- ii. What is Paralinguistics? Elaborate with examples.
- iii. Define (a) Intrapersonal Communication
(b) Extra-personal Communication
- iv. What are the requisites of writing a Sales letter? Explain with an example.
- v. Define Paragraph, What are different methods for writing a paragraph?
- vi. What is the importance of prepositions and articles in the use of language? Explain.
- vii. What is a reading and its different types?

Section – C
Descriptive Questions

3. Answer any two of the following questions.

2x10=20

निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर दें।

- i) Read the following passage and answer the questions:

Donald Trump's surprise win in the U.S. presidential elections has lent the dollar new wings. It has soared against most currencies, including the rupee, on the expectation that his economic policies will spur growth and inflation in the world's largest economy. The prospect of the Federal Reserve raising interest rates provided an up draught that helped the dollar extend a record appreciating streak against the euro last week and pushed the rupee past 68 to a dollar. In Congressional testimony last week, Fed Chair Janet Yellen signaled that the central bank was close to a decision to raise rates again. Some economists predict U.S. GDP growth could see appreciable acceleration in 2017 — with one projection positing even a doubling of the pace by the fourth quarter — if the new administration delivers on some of its promises, including tax cuts, deregulation and infrastructure spending. In fact, with a Republican majority in both the House of Representatives and the Senate, Mr. Trump could benefit from smoother Congressional backing for policy initiatives to boost economic activity. U.S. stocks and bonds have also reflected the optimism over the outlook for U.S. growth and prospects that increased fiscal spending will help reflate the economy, with the S&P 500 Index adding gains for the second straight week and benchmark bond yields climbing in anticipation of faster inflation.

For the rupee, which has slumped 2.3 per cent from its 66.62 a dollar close on November 8, the flight of capital from emerging market assets has inflicted significant pressure that has been exacerbated by the Centre's decision to withdraw higher denomination currencies. Foreign institutional investors have sold more than \$2.5 billion of Indian equity and debt holdings so far this month, compared with the about \$1.5 billion they offloaded through October. With the demonetization move infusing a surge of liquidity into the banking system, domestic interest rates are expected to decline, making the rupee less attractive to investors seeking to benefit from an interest rate arbitrage. And with consumption and broader economic activity predicted to take a hit on account of the shortage of cash in the wake of the currency move, GDP growth may slow sharply. That in turn could weaken overseas investor appetite for rupee assets. The task before policymakers, and the monetary policy committee that is set to meet a week before the Federal Open Market Committee's rate decision, will be to reassure markets and investors that India's economy remains robust.

1. According to the passage, against most of the currencies the value of US dollar has:
 - a) Remained constant
 - b) Decreased slowly
 - c) Decreased rapidly
 - d) Increased rapidly
2. What does the author mean by saying 'raising interest rates provided an up draught that helped the dollar extends a record appreciating streak against the euro'?
 - a) Dollar became weak against the Euro.
 - b) Dollar became strong against the Euro.
 - c) Euro became strong against the Dollar.
 - d) Both dollar and Euro became strong against each other.
3. Which of the following factor can result in boosting the economic activities in US?
 - a) A Republican majority in the House of Representatives.
 - b) A Republican majority in the Senate.
 - c) A Republican majority in both the House of Representatives and the Senate.
 - d) Raising interest rates by Central Bank.
4. Which of the following factor reflects an optimistic outlook for the growth of US economy?
 - a) Decrease in inflation.
 - b) Increase in stock returns and bond yields.
 - c) Decrease in stock returns and bond yields.
 - d) Decrease in fiscal spending.
5. Because of the demonetization move, investors will benefit from which of the following way?
 - a) Regulatory arbitrage
 - b) Political arbitrage
 - c) Interest rate arbitrage
 - d) Statistical arbitrage
- ii) You have seen added advertisement in an English newspaper for a job at Tata consultancy, New Delhi. You decide to apply for the job. Write a letter to the manager, HR, of the company. In your letter – introduce yourself, explain what experience and special skills you have and The purpose of interest in the job.
- iii) What are the different elements of an effective communication? Explain with the help of relevant details and a diagram.

SECTION-D FOR MID-SEM EVALUATION (TOTAL MARKS-2*10=20)

1. Find the synonym of the word empathy.

a) Affinity	c) disagreement
b) Discord.	d) unfeelingness
2. What is the antonym of the word brave?

a) Ugly.	c) coward
b) Happy	d) virtuous

3. The process of interpreting the message of the speaker or sender is what element of communication?
- a) Feedback
 - b) Encoding.
 - c) context
 - d) decoding
4. The factors that affect the flow of communication is what element?
- a) Barrier.
 - b) Context.
 - c) feedback
 - d) channel
5. Understanding yourself and your own personality is known as –
- a) interpersonal communication.
 - b) diagonal communication.
 - c) intrapersonal communication
 - d) group communication
6. Which of these are the means used to transmit messages from sender to receiver?
- a) Channel.
 - b) Context.
 - c) task
 - d) message
7. Which reading style is to locate some specific information?
- a) Scanning.
 - b) Assimilation
 - c) skimming
 - d) churning
8. Speaking without advanced preparation is called –
- a) Memorised.
 - b) Manuscript.
 - c) extemporaneous
 - d) impromptu
9. What is the best way to handle conflict in your life?
- a) by being aggressive.
 - b) by being assertive.
 - c) by differing
 - d) by being composed
10. Which type of stress motivates us and helps us to do better in our lives?
- a) Eustress.
 - b) None
 - c) distress
 - d) both

SEMESTER END EXAMINATION, DECEMBER 2024

Course Name: - B. Tech

Paper Name: - Engineering Chemistry

Time - 3Hrs + 20 minutes per hour extra time for V.I. & examinees with writer.

Max Marks-70

Semester: - 1st

Paper Code: - NBS-103

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries **03** marks. All questions are compulsory.
- Section B- Answer any **5 out of 7** given questions in maximum hundred (**150**) words. Each question carries **7** marks.
- Section C- Answer any **2 out of 3** given questions in maximum one hundred fifty (**500**) words. Each question carries **10** marks.
- Section D- Each question carries **02** marks. All questions are compulsory.

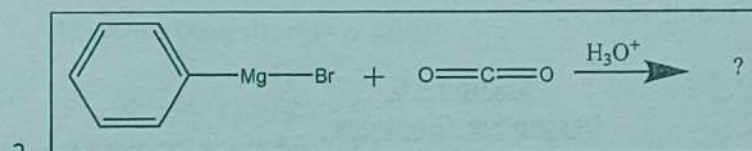
Section - A Objective Questions

1. Answer all the following questions.

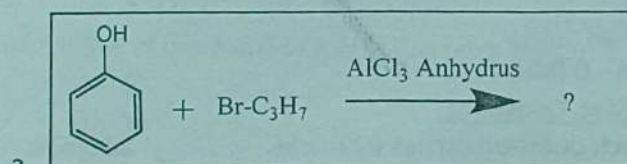
5×3=15

1. If the reaction (Butan-2-one + $\text{LiAlH}_4 \rightarrow$ Butan-2-ol) occurs in D_3O^+ then

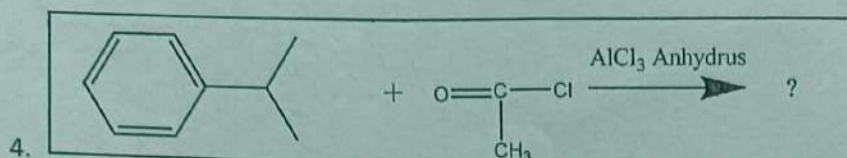
- Deuterium replaces H-atom of hydroxyl group
- Deuterium replaces H-atom of C-H
- Deuterium replaces H-atom of methyl group
- No reaction



- Benzoic Acid
- Benzaldehyde
- Benzyl alcohol
- Phenol



- m-propylphenol
- Propylphenol
- 1-Hydroxy-2-propylbenzene
- p-propylphenol



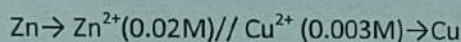
- a) 1-(2-isopropylphenyl)ethan-1-one
 b) Cumenethan-1-one
 c) isopropylacetophenone
 d) Acetophenone
5. Electricity in terms of faraday required to obtained 13.5 gram of Al from molten Al_2O_3 will be
- a) 1.2
 b) 1.5
 c) 2.5
 d) 2.2

Section – B Short Answer Questions

2. Answer any five of the following questions in maximum 150 words.

5×7=35

1. Discuss the detail Manufacturing of Cement.
2. What is a galvanic cell? Discuss the working of a galvanic cell having Cu and Zn as electrodes.
3. What is a P-n junction? On the basis of band theory classify conductors, insulators, and semiconductor with its types and examples.
4. Discuss the electrochemical theory of Corrosion and its types and affecting factors.
5. How defects causes imperfection in crystalline solids. What is F-center?
6. Explain the phase behavior of water with the help of a phase diagram.
7. Calculate the net cell potential for a galvanic cell ($E^\circ_{\text{cell Zn}} = -0.76$ and $\text{Cu} = 0.34$)



Section – C Descriptive Questions

3. Answer any 02 question of the following questions.

2×10=20

1. Focusing the goals of green chemistry explain its twelve principles.
2. Explain liquid crystal and its classification with structures of *mesogens* and their examples.
3. Lubricants are the key requirement of heavy industry. Discuss acting mechanism classification and functions of a good lubricant.

Section – D (Mid-Test) Objective Questions

4. Answer all the following questions. Each question carries 02 marks.

10×2=20

1. The correct bond dissociation energy order is

- a) $\text{N}_2^+ > \text{N}_2 > \text{N}_2^{2-}$
 b) $\text{N}_2 > \text{N}_2^+ > \text{N}_2^{2-}$

- c) $\text{N}_2 > \text{N}_2^{2-} > \text{N}_2^+$
 d) $\text{N}_2^{2-} > \text{N}_2 > \text{N}_2^+$

SEMESTER EXAMINATION DECEMBER-2024

Course Name: -B.TECH

Semester:- I

Paper Name: -UNIVERSAL HUMAN VALUES.

Paper Code:-ACU-001

Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer.

Max Marks-70

समय- 3 घण्टे + 20 मिनट प्रति घंटे अतिरिक्त-दृष्टिबाधित एवं सब लेखक परीक्षार्थियों के लिए। अधिकतम अंक-70

Instructions:

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- Section A- Each question carries 3 mark. All questions are compulsory.
- Section B- Answer any 5 out of 7 given questions. Each question carries 7 marks.
- Section C- Answer any 2 out of 3 given questions. Each question carries 10 marks.

निर्देश:

- प्रश्न पत्र में तीन खण्ड अ, ब, व स हैं। सभी खण्ड अनिवार्य हैं।
- खण्ड-अ में प्रत्येक प्रश्न तीन अंक का है। सभी प्रश्न अनिवार्य हैं।
- खण्ड-ब में सात प्रश्नों में से किसी पाँच प्रश्नों के उत्तर दें। प्रत्येक प्रश्न सात अंक का है।
- खण्ड-स में तीन प्रश्नों में से किसी दो प्रश्नों के उत्तर दें। प्रत्येक प्रश्न 10 अंक का है।

Section - A (खण्ड-अ)

Objective Questions (वस्तुनिष्ठ प्रश्न)

1. Answer all the following questions.

5x3 =15

- i) Basic unit of human interaction is:
- a) Family
 - b) Group.
 - c) Society
 - d) None of the above
- ii) Self-exploration is a process of dialogue between _____.
- a) What you are of and what you really want to be
 - b) Self-evaluation through self-investigation
 - c) Knowing oneself and the entire existence
 - d) All the above
- iii) Sensation is related to _____.
- a) Body
 - b) Self (I)
 - c) Both
 - d) None
- iv) _____ is the final output of Justice expansion at all orders and levels of living.
- a) Universal Human Order
 - b) Respect
 - c) Trust
 - d) Undivided Society
- v) The foundation value in relationship is _____.
- a) Love
 - b) Respect
 - c) Trust
 - d) Care

Section - B (खण्ड-ब)

Short Answer Questions (लघुउत्तरीय प्रश्न)

2. Answer any five of the following questions.

5x7=35

निम्नलिखित में से किन्हीं पाँच प्रश्नों के उत्तर दें।

- i. What is Globalization and how computers have played a vital role for reaching cross culture issues?
- ii. What do you mean by values or human values?
- iii. What is the fundamental value of life? Elucidate.
- iv. Differentiate: a) Morals. b) Ethics
- v. What is IPR? Name its types and explain with proper examples.
- vi. How is ethics interrelated with the work of research?
- vii. Define personality. Name its types and explain with relevant examples.

Section – C

Descriptive Questions (विवरणात्मक प्रश्न)

3. Answer any two of the following questions.

2x10=20

निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर दें।

- I. Draw the chart showing in detail, the different categories of units of nature in co-existence in space. What is your role in the existence.
- II. What do you mean by 'profession'? Why is it required to acquire ethical competence in profession? Give some essential qualities decide in a good professional.
- III. Describe briefly the criteria for evaluation of holistic technology. Support your answer with an example and a suitable diagram.

SECTION-D

MID-TEST (TOTAL MARKS-2x10=20)

1. Which will be a true testimony of ethical human conduct for an individual?
 - a) Person holding certificate of value education.
 - b) Person believes in value education.
 - c) Person reflecting his or her behaviour accordingly
 - d) NONE
2. What is called living with assumption for yourself as body and living of human being only on the basis of physical facilities, and not with right understanding and relationship?
 - a) A human consciousness. c) Be happiness
 - b) Right understanding. d) Animal consciousness
3. The IPR stands for-
 - a) Intelligent Patient Rights c) Intellectual Property Rights
 - b) Intelligent Property Rights d) None
4. What are the basic desires of every human being for which they are working?

a) Physical facilities

c) Happiness and prosperity

b) Realization and understanding

d) continuous happiness & prosperity

5. Understanding yourself and your surrounding is known as –

a) interpersonal skills.

c) intrapersonal skills

b) diagonal skills.

d) none

6. The participation of human being is seen in two forms _____.

a) Prosperity and work

c) Values and understanding

b) behaviour & wealth

d) behaviour & work

7. Contents of self-exploration are –

a) Desire & needs

c) Programs & needs

b) Programs & Practical

d) Desire & Program

8. Value education is becoming important for student nowadays because value education helps students to correctly identify our –

a) Value

c) Aspirations

c) Key to success

d) Needs

9. Three results are obtained from realisation and understanding. Two of them are assurance and satisfaction, the third one is –

a) Universality

c) All-encompassing

b) Acceptance

d) self-verification

10. What is the fourth level of living?

a) Society

c) Family

b) Individual

d) Nature

SEMESTER EXAMINATION DECEMBER-2024

Course Name: - B.Tech(CSE/AIFM)

Semester: Frist

Paper Name: - Microeconomics

Paper Code: -NAM-101

Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer.

Max Marks-70

समय-3 घण्टे+ 20 मिनट प्रति घंटे अतिरिक्त-दृष्टिबाधित एवं सहलेखक परीक्षार्थियों के लिए।

अधिकतम अंक-70

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries 3 mark. All questions are compulsory.
- Section B- Answer any 5 out of 7 given questions. Each question carries 7 marks.
- Section C- Answer any 2 out of 3 given questions. Each question carries 10 marks.
- Section D- Each question carries 2 mark. All questions are compulsory.

Section - A (खण्ड-अ)

Objective Questions (वस्तुनिष्ठ प्रश्न)

1. Answer all the following questions.

5x3 =15

- 1) Macroeconomics deals with _____ economic entities?
 - a) Aggregate
 - b) Industrial
 - c) Supply is independent of price.
 - d) Demand and supply are always equal.
- 2) In which market structure do firms have complete control over pricing?
 - a) Perfect competition
 - b) Monopolistic competition
 - c) Monopoly
 - d) Oligopoly
- 3) Economics is a social science which deals with human behaviour as a relationship between_____
 - a) Unlimited buyers and limited sellers
 - b) b. Unlimited wants and scarce resources
 - c) c. Unending wants and limited people
 - d) d. Consumption and production
- 4) Which component is included in the calculation of national income but excluded from GDP?
 - a) Transfer payments
 - b) Net exports
 - c) Gross private domestic investment
 - d) Compensation of employees
- 5) Which economic growth model emphasizes the role of technological progress in long-term growth?
 - a) Classical growth model
 - b) Solow growth model
 - c) Keynesian growth model
 - d) Malthusian growth model

Section - B (खण्ड-ब)
Short Answer Questions (लघुउत्तरीय प्रश्न)

2. Answer any five of the following questions.

5×7=35

- i. What is the difference between microeconomics and macroeconomics?
- ii. Define 'economics' Explain the nature & scope of economics detail?
- iii. Explain the law of demand with the help of a graph?
- iv. Explain the different types of elasticity of demand and list out and explain the various factors determining the elasticity of demand.?
- v. List out and explain in detail the themes and the three fundamental problems of economics?
- vi. Explain aggregate demand & aggregate supply?
- vii. Explain in detail scope & feature in micro and macroeconomics?

Section - C (खण्ड-स)
Descriptive Questions (विवरणात्मक प्रश्न)

3. Answer any two of the following questions.

2×10=20

- i) Define Growth and development? Explain economic growth models?
- ii) Explain monopoly, oligopoly, monopolistic competition?
- iii) Write Short Notes in the following?
 - a) Elasticity of demand
 - b) Features of economics
 - c) Macroeconomics
 - d) Microeconomics

Section - D

Course Name: - B.Tech. (AIFM)

Paper Name: - Microeconomics

Objective Questions

1. Answer all the following questions

Semester: - 1st

Paper Code: -NAM-101

Max. Marks: 20

10×2 = 20

1. Economics is a science which deals with _____
 - a. matters and substance
 - b. chemicals and reactions
 - c. human wants and resources
 - d. numbers and combinations
2. Microeconomics deals with the study of _____ economic entities.
 - a. Aggregate
 - b. Individual
 - c. Macro
 - d. Socio

3. Macroeconomics deals with _____ economic entities.
- Aggregate
 - Individual
 - Micro
 - Socio
4. _____ is an example of Microeconomic theory.
- Theory of Consumption
 - Theory of Economic Growth
 - Theory of Money
 - Theory of Income, Employment and Output
5. _____ is an example of Macroeconomic theory.
- Theory of Production
 - Theory of Rent
 - General Theory
 - Theory of Profit
6. Opportunity costs are _____ measured in monetary terms.
- Always
 - Can be
 - Not
 - Never
7. An exogenous variable exists _____ the economic model.
- Within
 - Outside
 - Inside
 - In none of
8. _____ express functional relationship between two or more variables.
- Functions
 - Combinations
 - Programs
 - Limits
9. Slope of straight line is _____ at all points.
- Different
 - Rising
 - Falling
 - Same
10. Graph is a _____ tool used to show the relationship between the variables.
- Physical
 - Economic
 - Social
 - Geometrical

SEMESTER EXAMINATION, DECEMBER-2024

Course Name: - B.tech

Semester:- Ist

Paper Name: -Python Programming

PaperCode:-NES-103

Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer. Max Marks-70

समय-3 घण्टे+ 20 मिनटप्रति घंटेअतिरिक्त-दृष्टिबाधित एवंसहलेखकपरीक्षार्थियों के लिए।

अधिकतम अंक-70

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries 3 mark. All questions are compulsory.
- Section B- Answer any 5 out of 7 given questions. Each question carries 7 marks.
- SectionC- Answer any 2 out of 3 given questions. Each question carries 10 marks.

निर्देश:

- प्रश्नपत्र में तीन खण्ड अ, ब, व स हैं। सभी खण्ड अनिवार्य हैं।
- खण्ड-अ में प्रत्येक प्रश्न तीन अंक का है। सभी प्रश्न अनिवार्य हैं।
- खण्ड-ब में सात प्रश्नों में से किन्हीं पाँच प्रश्नों के उत्तर दें। प्रत्येक प्रश्न सात अंक का है।
- खण्ड-स में तीन प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर दें। प्रत्येक प्रश्न 10 अंक का है।

Section - A (खण्ड-अ)

Objective Questions (वस्तुनिष्ठप्रश्न)

1. Answer all the following questions.

5x3 =15

निम्नलिखित सभी प्रश्न अनिवार्य हैं।

- Which type of programming does Python support?
 - Object-oriented programming
 - Structured programming
 - Functional programming
 - All of the above
- All keywords in Python are in____
 - Capitalized
 - Lower case
 - Upper case
 - None of the above
- Which keyword is used for function in Python language?
 - Function
 - def
 - fun
 - Define
- What will be the value of the following Python expression: $4+3\%5*((45/5)-8)$?
 - 7
 - 6
 - 8
 - None of the above
- _____ is used to create an object.
 - class
 - constructor
 - user defined functions
 - in built functions

Section - B (खण्ड-ब)
Short Answer Questions (लघुउत्तरीय प्रश्न)

2. Answer any five of the following questions.

5×7=35

- I. Differentiate between append() and insert() function of the List and state example for this?
 - (a) Define the set, frozenset and dictionary datatype in python with example
- II. What is the difference between while and for loop? Write a program to print table of any number using while loop or for loop.
- III. Write a program to check whether given no. is prime number or not.
- IV. Explain the each data type of Python in detail with the help of example.
- V. Define Armstrong no. and write a program to check the given no. is Armstrong no. or not.
- VI. Define arguments and its each types with the help of examples.
- VII. Define Exceptional handling and its components in detail with the help of example.

Section -C
Descriptive Questions (विवरणात्मक प्रश्न)

3. Answer any two of the following questions.

2×10=20

- i) Define class, objects, self parameter and __init__ function and also write a program to print the data related to Students using class and objects concepts.
- ii) Define Package and module in detail. Define os module with its each method and write the difference between Package and module.
- iii) Write a program to check whether given no. is palindrome number or not and also write a program to print factorial of given number.

Section-D (Mid-Test)

Timing: 30 Minutes

Max. Marks: 20

4. Answer all the following questions.

10×2 =20

निम्नलिखित सभी प्रश्न अनिवार्य हैं

- (i) What do we use to define a block of code in Python language?
 - a. Key
 - b. Brackets
 - c. Indentation
 - d. None of these
- (ii) Which character is used to define single line comment in Python?
 - a. //
 - b. #
 - c. /
 - d. !
- (iii) Which of the following declarations is incorrect?
 - a. a=6
 - b. _xyz_=5
 - c. _b=7
 - d. None of these

(iv) Study the following program:

```
x=1
while True:
    if x%5==0:
        break
    print(x)
    x += 1
```

- a. error
- b. 2 1
- c. 0 3 1
- d. None of these

(v) Which datatype is immutable in Python?

- a. List
- b. Frozen Set
- c. Set
- d. Dictionary

(vi) Python is -----language?

- a. interpreted
- b. compiler
- c. both
- d. none of the above

(vii) Study the following program:

```
X=(8,9,7,5,2,1)
print(x[6])
```

- a. 2
- b. 1
- c. Index error
- d. None of these

(viii) The variable which is define inside a function is called

- a. Local variable
- b. Global variable
- c. both a and b
- d. none of the above

(ix) What is a recursive function?

- a. the functions calls itself
- b. the functions calls other function
- c. both a and b
- d. none of the above

(x) The list is faster than a tuple

- a. True
 - b. False
 - c. both are taking small times
 - d. sometimes it is true
-

SEMESTER END EXAMINATION, DECEMBER 2024

Course Name: - B. Tech

Semester: - 1st

Paper Name: - Sign Language

Paper Code: - NVA-104

Time - 3Hrs + 20 minutes per hour extra time for V.I. & examinees with writer.

Max

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries **03** marks. All questions are compulsory.
- Section B- Answer any **5 out of 7** given questions. Each question carries **7** marks.
- Section C- Answer any **2 out of 3** given questions. Each question carries **10** marks.
- Section D- Each question carries **02** marks. All questions are compulsory.

Section – A

Objective Questions

1. Answer all the following questions.

5×3=15

1. First dictionary of Indian sign language published in
 - a) 1953
 - b) 1981
 - c) 1982
 - d) 1952
2. Which deaf Teacher create first ISL training course
 - a) Urlic Zekshan
 - b) Urilic Panda
 - c) Shivaji Panda
 - d) Henery Castel
3. first ISL training course designed by
 - a) Ali Yavar Jung National Institute of hearing and disabilities Mumbai
 - b) Dr Shakuntala Misra National Rehabilitation University, Lucknow
 - c) Jagadguru Rambhadra Charya University, Chitrakoot
 - d) National institute of speech and hearing
4. Who is the father of Indian Sign Language
 - a) Urlic Zekshan
 - b) Narayan Murti
 - c) Shivaji Panda
 - d) Akash Bhardwaj
5. The recorded history of sign language starts in
 - a) 17th century in western society
 - b) 17th century in eastern society
 - c) 17th century in American society
 - d) 17th century in Europe society

Section – B
Short Answer Questions

2. Answer any five of the following questions.

5×7=35

1. Describe the development of Indian sign language course.
2. What is the difference between American and Indian sign language?
3. How Indian sign language originated? Discuss about the first ISL training course.
4. What is the historical comparison and perception of deaf communities?
5. Write five key aspects of deaf culture.
6. {Hi, Nice To Meet You, What Is Your Name, Thank You, Good Bye, Please, Sorry } write common expression for all.
7. Write fingerspelling's of { A, B, C, D, E, F, G and 1, 8, 9, 7, 12, 39, 48 }

Section – C
Descriptive Questions

3. Answer any 02 question of the following questions.

2×10=20

1. Write similarities and differences in hearing culture and deaf culture in India.
2. Explain global view and ethical consideration in deaf culture.
3. What are the Social challenges faced by *Divyangjan* in Indian Society.

Section – D
Objective Questions

4. Answer all the following questions.

10×2=20

1. First dictionary of Indian sign language launched in
 - a) 1980
 - b) 1981
 - c) 1983
 - d) 1982
2. First Indian sign language dictionary launched by which NGO
 - a) All India Foundation of Deaf
 - b) All India Federation of Deaf
 - c) All India Freedom of Deaf
 - d) All India Association of Deaf
3. NAGA sign language starts in
 - a) 21st century
 - b) 20th century
 - c) 18th century
 - d) 19th century
4. First ever formal ISL training course created by
 - a) Urlic Zekshan
 - b) Narayan Murti
 - c) Shivaji Panda
 - d) Akash Bhardwaj
5. Hand gestures starts in
 - a) 15th century BC in Greece
 - b) 16th century BC in United Kingdom
 - c) 17th century BC in China
 - d) 15th century BC in India

6. One can write an alphabet by just tracing his index figure in Air in the same way the alphabet will be

- a) N
- b) Z

- c) Y
- d) W

7. A person wants to express number 10. He can express as

- a) Touch the thumb to the ring figure keeping the other figure extended
- b) Touch the thumb to the middle figure keeping the other figure extended

- c) Touch the thumb to the index figure keeping the other figure extended
- d) Form a fist with the thumb extended outward and slightly shake it

8. "V" In sign language can be expressed as

- a) Hold up your index and middle finger together
- b) Extend your index and middle finger
- c) Curl your index finger while keeping the other finger closed
- d) Extend your index and middle finger

9. "Thank You" signed by

- a) Bringing the flat hand from the mouth outward in a respectful gesture
- b) Waved with one or both hands, similar to how it's done in hearing culture
- c) Both (a) and (b)
- d) None of these

10. First school for the blind set up at

- a) At Amritsar in 1887
- b) At Bombay in 1883
- c) At Delhi in 1884
- d) At Bhopal in 1883