

**CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY**  
**HEAD OFFICE : GUINDY, CHENNAI – 600 032.**  
**ACADEMIC CELL**  
**SECOND SEMESTER EXAMINATION – JULY 2024**

Duration : 3 Hours  
Course : DPMT  
Subject : Communication English – II

Max. Marks: 60  
Date : 01.07.2024  
Time : 02.00 p.m. to 05.00 p.m.

**(DO NOT CHANGE SEQUENCE OF QUESTION NUMBER IN ANSWER SCRIPT)**

**PART – A**

Answer **all** questions

12 x 1 = 12

1. Identify the pair of homophones  
a) Bark , Bark      b) Hard , Rigid      c) Knight , Night      d) Bright , Dull
  2. “Although it was raining, I went for a walk “ is –  
a) Simple sentence      b) Compound sentence      c) Complex sentence      d) None of these
  3. “ Breakfast “ is an example of –  
a) Closed compound words      b) Open compound words      c) Phrase      d) Clause
  4. .... sky has no limits.
  5. Shakespeare is ..... Kalidasa of England.
  6. She heard an old tale about ..... Unicorn.
  7. Amateur means done in an incompetent way. (true/false)
  8. Tranquil means free from disturbance. (true/false)
  9. The sun looks amazing today is an example of compound sentence. (true/false)
- Write the full form of the following abbreviations:**
10. MHRD –
  11. MEMO –
  12. UNESCO –

**PART – B**

Answer **all** questions (Max. 40 words)

4 x 2 = 8

1. Write the meaning of the following idioms –  
a) To burn the midnight oil      b) Forty Winks
2. Convert the active voice into passive voice –  
a) I did not trust anybody.      b) Must we cut this tree?
3. Match words in Column A with their meaning in Column B:  

<b>Column A</b>	<b>Column B</b>
i) Alma Mater	A place where objects are exhibited.
ii) Planetarium	Absence of Government.
iii) Museum	An optical device for projecting celestial objects.
iv) Anarchy	The school or college one attends.
4. Write any two Hyphenated compound words.

**PART – C**

Answer any **six** questions (Max. 100 words)

6 x 4 = 24

1. Write the use of Quotation mark and colon with one example for each.
2. Transform simple sentences into compound sentences –  
i) Being Sick, I went to the doctor.  
ii) In spite of the rain, the children went out to play.  
iii) Having handed over the flowers to my mom, I hugged her.  
iv) Despite the train being late, Preetha waited for the train.
3. Complete the following question tags :  
i) Juhi is from Mumbai, ..... ?  
ii) Sam isn't a good boy, ..... ?  
iii) It is very hot today, ..... ?  
iv) She never acts so rudely, ..... ?

4. Complete the following dialogues:
  - i) Teacher : Good morning students.  
Student : ..... Ma'am.
  - ii) Teacher : Why are you absent for long days.  
Student : I am .....
  - iii) Teacher : Okay, did you finish your homework ?  
Student : Sorry, .....
  - iv) Teacher : When will you do your homework ?  
Student : Ma'am .....
5. Define complex sentences. Write three examples.
6. Define Phrases and Clauses. Write two examples of each.
7. Write a report on cyber security threats in the Moder Digital Age.

**PART – D**

Answer any **two** questions (Max. 300 words)

2 x 8 = 16

1. Write a letter to your friend, who just met with an accident wishing about his speedy recovery.
2. Write an Essay on 'The impact of Social Media on Mental Health'.
3. Drop an Email to your employees about the change in work timings.

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**ACADEMIC CELL**  
**SECOND SEMESTER EXAMINATION – JULY 2024**

Duration : 3 Hours  
 Course : DPMT  
 Subject : Engineering Mathematics

Max. Marks: 60  
 Date : 02.07.2024  
 Time : 02.00 p.m. to 05.00 p.m.

**(DO NOT CHANGE SEQUENCE OF QUESTION NUMBER IN ANSWER SCRIPT)**

**PART – A**

Answer **all** questions

12 x 1 = 12

1. The matrix having only one column is called:  
 a) zero matrix      b) diagonal matrix      c) row matrix      d) column matrix
2.  $\int \sin x \, dx =$   
 a)  $\cos x$       b)  $-\cos x$       c)  $-\operatorname{cosec} x$       d)  $\cot x$
3. The conjugate of  $x-iy$  is  
 a)  $x+iy$       b)  $x-iy$       c)  $-x+iy$       d)  $-x-iy$
4.  $\frac{d}{dx} \sec x =$  \_\_\_\_\_
5.  $i^{100} =$  \_\_\_\_\_
6. Order and degree of the following differential equation  $\left(\frac{dy}{dx}\right)^2 + x \frac{dy}{dx} + y = 0$  is \_\_\_\_\_
7. If modulus of a vector is zero then it is called unit vector (True/False)
8. Differentiation of constant function is zero. (True/False)
9. In Binomial probability distribution  $p+q = 1$ . (True/False)

**Write full form of the following:**

10.  $\operatorname{CiS}\Theta$
11. D.P.D.
12. P.V.

**PART – B**

Answer **all** questions (Max. 40 words)

4 x 2 = 8

1. If  $A = \begin{bmatrix} 4 & 3 \\ 2 & 5 \end{bmatrix}$ , then, evaluate  $A^2 - 9A + 14I$
2. Simplify  $\left(\frac{\cos \theta + i \sin \theta}{\sin \theta + \cos \theta}\right)^4$
3. If  $y = \log(\sin x)$  then find the derivative of  $y$  with respect to  $x$ .
4. Form the differential equation of  $y = m x + c$ ,  $m$  and  $c$  being arbitrary constants.

**PART – C**

Answer any **six** questions (Max. 100 words)

6 x 4 = 24

1. If  $Z_1 = 1 + 2i$  and  $Z_2 = 3 + 4i$ , evaluate  $(Z_1 + Z_2)$  and  $(Z_1 - Z_2)$
2. If  $x^3 + y^3 = 3axy$  then evaluate  $dy/dx$ .
3. Explain scalar and vector product of two vectors.
4. Evaluate  $\int x^2 e^x \, dx$ .
5. The mean and variance of the Binomial distribution 16 and 8. Find  $n$  of the distribution.
6. Find the Adjoint of the following matrix:  $A = \begin{bmatrix} 3 & 7 \\ 1 & 4 \end{bmatrix}$
7. Evaluate  $\int_0^1 (3x^2 + 2x + 1) \, dx$

**PART – D**

Answer any **two** questions (Max. 300 words)

2 x 8 = 16

1. Solve the following system of equations by Cramer's rule:  
 $2x - y + 3z = 9$ ,  $x + y + z = 6$ ,  $x - y + z = 2$ .
2. Find the area bounded by the curve  $y = x^2$ , the  $x$ -axis, and the ordinates  $x = 0$  and  $x = 3$ .
3. Define the following with example  
 a) Lower and Upper triangular matrix.      b) Conjugate of complex number.  
 c) Integration by Parts.      d) Binomial distribution.

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**ACADEMIC CELL**  
**SECOND SEMESTER EXAMINATION – JULY 2024**

Duration : 3 Hours  
Course : DPMT  
Subject : Engineering Chemistry

Max. Marks: 60  
Date : 03.07.2024  
Time : 02.00 p.m. to 05.00 p.m.

**(DO NOT CHANGE SEQUENCE OF QUESTION NUMBER IN ANSWER SCRIPT)**

**PART – A**

Answer **all** questions

12 x 1 = 12

- In a chemical bonding the atom attains .....configuration.  
a) Partially filled      b) half-filled      c) vacant      d) octet or inert gas
- .....of Ca and Mg create temporary hardness of water.  
a) Carbonates      b) Bicarbonates      c) Carbonates and Bicarbonates      d) None of these
- The general formula for alkyne is.....  
a)  $C_nH_{2n+2}$       b)  $C_nH_{2n}$       c)  $C_nH_{2n-2}$       d)  $C_nH_{2n+4}$
- All Organic compounds mainly consist of.....
- The fraction of total current carried by the cation and anion is termed as.....
- The electrode where reduction occurs is called.....
- In a  $N_2$  molecule there are one sigma and two pi bonds (Say True or False)
- The process in which the temperature of the system is remains constant is called as Isochoric.  
(Say true or false)
- The Major quantity of the solution is called as solvent. (Say True or False)
- ppb stands for \_\_\_\_\_
- VC stands for \_\_\_\_\_
- What does "TAN" stands for ?

**PART – B**

Answer **all** questions (Max. 40 words)

4 x 2 = 8

- What is the use of buffer solution?
- Define Primary Fuels. Give examples.
- Explain Ohm's law.
- Define Adiabatic process.

**PART – C**

Answer any **six** questions (Max. 100 words)

6 x 4 = 24

- Differentiate between Electrolysis and Electroplating.
- Explain fractional distillation of crude oil.
- Explain types of hardness of water .
- Differentiate Exothermic and Endothermic process.
- Define tautomerism with example.
- What do you mean by quantum number?
- Write short note on --- i) catenation    ii) Functional group

**PART – D**

Answer any **two** questions (Max. 300 words)

2 x 8 = 16

- Define corrosion and factors affecting corrosion. Explain the methods of prevention of corrosion.
- How can we remove the permanent hardness of water by Permutit method. Write the disadvantages of hard water.
- What do you mean by natural gas? Mention its uses and advantages

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**SECOND SEMESTER EXAMINATION – JULY 2024**

Duration : 3 Hours  
Course : DPMT  
Subject : Computer & Information Technology

Max. Marks: 60  
Date : 04.07.2024  
Time : 02.00 p.m. to 05.00 p.m.

**(DO NOT CHANGE SEQUENCE OF QUESTION NUMBER IN ANSWER SCRIPT)**

**PART – A**

Answer **all** questions

12 x 1 = 12

1. What does **.COM** refer to with respect to website?  
(a) Community (b) Common (c) Commercial (d) Communication
2. The data can be inserted using \_\_\_\_\_ device.
3. To get to the symbol dialog box, click on the \_\_\_\_\_ menu.
4. \_\_\_\_\_ is used to explore the files in a computer.
5. The Portrait and Landscape orientations are set in paper option under properties. (Say True/False)
6. What does **"AI"** stands for?
7. What does **"B2C"** stands for?
8. What does **"YB"** stands for?
9. The **CU** of a computer is otherwise known as Nervous System of that computer. (Say True/False)
10. Which of the following is not a font style?  
(a) Bold (b) Italics (c) Regular (d) Superscript
11. Which of the following is used for modulation and demodulation?  
(a) Modem (b) Protocols (c) Gateway (d) Multiplexer
12. MS Word is a hardware. ( Say True/False)

**PART – B**

Answer **all** questions (Max. 40 words)

4 x 2 = 8

1. What is Serial data transmission?
2. What is HUB?
3. What are the types of page orientation used in MS-Word?
4. Write the shortcut key use for Copy and Paste a text in Ms-Excel.

**PART – C**

Answer any **six** questions (Max. 100 words)

6 x 4 = 24

1. What is Mesh Topology explain it with diagram.
2. According to the application how the computer systems are classified, explain it in details.
3. Explain about second generation of computer system.
4. Explain: a. ICON b. Recycle Bin.
5. Write about two secondary storage devices in details.
6. Write the steps to follow for adding animation in a Power Point Presentation Slid.
7. What are the difference between application software and system software?

**PART – D**

Answer any **two** questions (Max. 300 words)

2 x 8 = 16

1. What is Operating System? Explain three functions of Operating System in details.
2. Explain about the components of computer system with neat sketch.
3. Write short notes on the following points.  
a. Blue tooth b. E-mail c. MAN d. Network

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**SECOND SEMESTER EXAMINATION – JULY 2024**

Duration : 3 Hours  
Course : DPMT  
Subject : Development of Life Skills

Max. Marks: 60  
Date : 05.07.2024  
Time : 02.00 p.m. to 05.00 p.m.

**(DO NOT CHANGE SEQUENCE OF QUESTION NUMBER IN ANSWER SCRIPT)**

**PART – A**

Answer **all** questions

12 x 1 = 12

1. During practice, by how much should the speech be lengthened?  
a) 2 to 5 %      b) 6 to 10 %      c) 7 to 11 %      d) 9 to 13 %
2. Life skills address a balance of three areas: knowledge, \_\_\_\_\_ and skills.  
a) aptitude      b) confidence      c) attitude      d) abilities
3. Our dress code is an example of \_ communication.  
a) Verbal      b) nonverbal      c) written      d) spoken
4. The tone of the speaker should be \_\_\_\_\_
5. The goal of the ..... approach is to promote healthy and social behavior.
6. In a group discussion, one must communicate with \_\_\_\_
7. FSM Stands for \_\_\_\_\_
8. Write the extended form of LEDO
9. Write full form of RJST
10. All job interviews have the same objective. (True/False)
11. A moderator is a monitor of a group discussion. Say True or False
12. Kantian ethics is also known as duty ethics. Say True or False

**PART – B**

Answer **all** questions (Max. 40 words)

4 x 2 = 8

1. What is the difference between Hard skills and Soft skills?
2. Define Motivation?
3. List the different styles of Leadership
4. How Body Language Plays an Important Role in Communication?

**PART – C**

Answer any **six** questions (Max. 100 words)

6 x 4 = 24

1. How does Body language help in communication?
2. Why it is important for team members to support each other?
3. Write down the benefits of time management
4. Explain about trust, respect of human values?
5. Difference between morals and ethics
6. Explain why health is important.
7. Explain about stress & conflict management?

**PART – D**

Answer any **two** questions (Max. 300 words)

2 x 8 = 16

1. Write short notes on Interview Techniques and Group Discussion
2. Why is decision making an important Leadership skill?
3. Briefly explain the basic principle theory of Motivation.

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