$30 \times 1 = 30$



CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY HEAD OFFICE: GUINDY, CHENNAI - 600 032. ACADEMIC CELL

SECOND SEMESTER EXAMINATION - JULY 2022

Duration 3 Hours

Max. Marks: 60

Course DPMT

Date: 18.07.2022

Subject Communication English-II

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 Choose the most suitable alternative from the options given below -1. I think you go out and meet new people. (i) Should (ii) mustn't (iii) must (iv) would you please lend me your pen? (i) will (ii) could (iii) can (iv) may 3. She kept her purse the bed. (i) in (ii) into (iii) on (iv) to 4. This is the car belongs to my brother. (ii) whom (iii) who (i) which (iv) this 5. A boy doesn't play games will never be healthy. (ii) whom (iii) who (i) which (iv) that 6. The new officer is a young man. (i) Discent (ii) descent (iii) desent (iv) decsent 7. Some armed men tried to the passengers of their money. (i) Steal (ii) rob (iii) take 8. My old mother milk only. (i) Steal (iv) molest (i) lives in (ii) lives on (iii) lives for (iv) lives to This book rural economy. (i) deals on (ii) deals in (iii) deals for (iv) deals 10. The shopping center was about 20 years ago. (iv) deals with (i) building (ii) build (iii) built (iv) builden 11. Antonym of the word 'Comic' is -(i) Emotional (ii) fearful (iii) comedy (iv) tragic 12. Antonym of the word 'Advance' is -(i) Retreat (ii) march (iii) return (iv) treat 13. Shakespeare is a famous English dramatist. Identify the type of noun. (iii) common noun (iv) abstract noun (i) material noun (ii) proper noun 14. Either Kiran or Ahmed stolen the ring. (i) was (ii) has (iii) have (iv) were 15. Mahesh is one of shortest boys in my class. (i) no article (ii) a (iii) an Fill in the blanks with the correct tense form of the verb -16. My father..... the doctor tomorrow. (i) will consulted (ii) will consult 17. They often the factory. (iii) will be consult (iv) will consulting (i) visiting (ii) have visited (iii) visit (iv) had visited 18. India her independence in 1947. (ii) gotten (iii) will get 19. He three essays so far. (i) written (ii) has written (iii) had written 20. Rita her work within three days. (iii) had written (iv) write (iv) will finished (i) has finish (ii) finish (iii) will finish Write the full form of the following abbreviations/acronyms:

- 21. GDP
 - 22. kWh
 - 23. MNC
 - 24. BIS
 - 25. IP



- 26. A word that is used instead of an adjective is called a pronoun. (True/False)
- 27. The auxiliary 'used to' expresses a continuing habit. (True/False)
- 28. 'A' is used before a word beginning with a consonant sound. (True/False)
- 29. The present perfect continuous is used for an action which completed at some time in the past. (True/False)
- 30. The simple present is used to express general truths. (True/False)

PART - B

Answer all questions (Max. 40 words)

 $4 \times 2 = 8$

- 1. Change the active sentences to passive sentences:
 - (i) Do you like tea?

Α

- (ii) Open the door.
- 2. Convert the following verbs into nouns -
 - (i) Sing
 - (ii) Free
- 3. Insert suitable suffixes for the following words -
 - (i) Meaning
 - (ii) Develop
- 4. Match the words given in the column A with column B -

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Quadrant the state of being alone

Amateur providing extra help or support

Solitude a period of three months

Auxiliary a quarter of a circle's circumference Quarterly an unskilled person doing something

PART - C

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

 $4 \times 3 = 12$

- 1. Your friend from Malaysia is visiting India during Diwali Vacations. Write an email inviting him to join Diwali celebrations with you at your residence.
- 2. Spot the errors in the following sentences and correct them -
 - (i) Smoking is injurious for health.
 - (ii) Ravi met in an accident.
 - (iii) We congratulated her for her success.
- 3. What are idioms? Write three examples.
- 4. Define compound sentence and write three examples.
- 5. Complete the following conversation between a book seller and a student.

Book Seller : Welcome, please come in.

Student :?

Book Seller : Yes, we have some copies of 'Introduction to Shakespeare.'

Student:?

Book Seller : Each copy costs Rs. 350/-

Student :?

Book Seller : We've 'Othello', 'The Tempest' and so on.

Student :

Book Seller : Yes, we send the books by VPP too.

PART – D

Answer any two questions (Max. 300 words)

 $2 \times 5 = 10$

- 1. You are interested in doing a short term course in computer programming during your summer vacation. Write a letter to the Director, Computer World, Sector 22, Chandigarh, inquiring about the duration of the course and the terms and condition for admission.
- 2. You have placed an order for a few books with City Central Book Shop, New Delhi. You have not received the books so far. Write a letter to the bookshop complaining about the non-compliance of your order.
- Write a paragraph on 'Books are Our Best Companions' in not more than 150 words.



CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY HEAD OFFICE: GUINDY, CHENNAI - 600 032. **ACADEMIC CELL SECOND SEMESTER EXAMINATION - JULY 2022**

Duration : 3 Hours

Max. Marks: 60

Course : DPMT

Date: 19.07.2022

Subject : Engineering Mathematics

Time: 02.00 p.m. to 05.00 p.m.

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

30

	PARI – A Answer all questions	30 x 1 = 3
 Which of the following holds true for a a) It has only magnitude A vector has both direction and ma Express(¹/₃ + 3i)³ in the form of a + ib 		ection never be negative
	a) 2+2:	d) ¹ . / 2:)
a) 3+0i b) $\frac{-242}{27}$ +(-26i)		d) $\frac{1}{3}$ +(-3i)
3. Find the magnitude of $\overrightarrow{a} + \overrightarrow{b}$, if $\overrightarrow{a} = \widehat{4u}$ a) $\sqrt{181}$ b) $\sqrt{81}$	$a+9j$ and $b^3=6i$. c) $\sqrt{11}$ d) $\sqrt{6}$	$\overline{0}$
4. Evaluate the dot product of $\vec{a} = \hat{i} + 3\hat{j} + 3\hat{j}$	$\widehat{2k}$ and $\overrightarrow{b} = \widehat{2i} + \widehat{3j} + \widehat{4k}$	
a)12 b) 19 c)	-23 d) none of t	hese
5. What will be the value of x for which the	e value of cosx is minimum?	
a) 0 b) -1	c) 1	d) Cannot be determined
6. If $A = \begin{bmatrix} \cos x & -\sin x \\ \sin x & \cos x \end{bmatrix}$, then $ A $		*
a) 0 b) -1 6. If $A = \begin{vmatrix} \cos x & -\sin x \\ \sin x & \cos x \end{vmatrix}$, then $ A $ a) $\frac{4}{3}\sin x$ b) 0	c) 1 d) none of the	
a) 3 1112 b) 0	d) Holle of the	
7. Find order and degree of $\frac{d^4y}{dx^4} + 4\frac{d^2y}{dx^2} =$	5 <i>y</i>	
a) 4,1 b) 1,4	c) 2,5	d) none of these
8. Which symbol denote impossible event		
a) S b) Φ	c) β	d) µ
9. A Random Variable X can take only tw	o values, 4 and 5 such that	P (4) = 0.32 and P (5) = 0.47.
Determine the Variance of X.	-) 0.7	-1\ 4.0
a) 8.21 b) 12	c) 3.7	d) 4.8
10.find dy/dx of y = $\sin (ax + b)$. a) a.cos $(ax + b)$ b) b. $\sin (ax - b)$	+ h) c) a sin (av 4	$-b$ d) $a\cos(ay+b)$
11.If 2/11 is the probability of an event, w		
a) 2/11 b) 9/11	c) 5/11	d) 7/11
12. What is direction of vector a if it is m		۵,
	c) Same	d) Opposite
13. Angle between two vectors,		
a) $\cos \theta = \frac{\vec{A} \cdot \vec{B}}{ \vec{A} \vec{B} }$ b) $\sin \theta = \frac{\vec{A} \times \vec{B}}{ \vec{A} \vec{B} }$ 14.If z=3xy+4x ² , what is the value of $\partial z/\partial z$	c) $\cos \theta = 0$ d) none	of these
14.If $z=3xy+4x^2$, what is the value of $\partial z/\partial z$	X?	
a) $3y+8x$ b) $3x+4x^2$ c) 3		
15. Find the value of x and y, if vectors 2	$i + 3j$ and $xi + \hat{y}j$ are equal	
a) x=2, y=3 b) x=4, y=3	c) x=2 y=2	d) x=-3, y=2
16. $\frac{d}{dx}(tanx)$ is		
17. write the value of ω^3		
18. If scalar product, the value i.i =		
19. The sum of happened and not happe	ened event is	
$20. \int u.v \ dx = \dots$		
21. If any two rows/column of a matrix ar		det A is zero (True/False)
22. Scalar quantities have direction and r		
23. Possible orders of a matrix if it has 9 24. r(cosx+isinx) is the polar form of con		
25. Integration of sinx is cosx (True/Fals)
The state of the s	,	



- 26. $\frac{dy}{dx}$ stands for
- 27. The value of $\int \frac{dx}{x}$ is
- 28. What is derivative of xⁿ 29. Value of i¹⁵ is
- 30. In $\int_a^b f(y) dy$, what is 'a' called as

Answer all questions (Max. 40 words)

$$4 \times 2 = 8$$

- 1.Differentiate log (cose^x)
- 2. Find the projection of vector $a = \widehat{2i} + \widehat{3j} + \widehat{2k}$ on the vector $b = \widehat{i} + \widehat{2j} + \widehat{k}$?
- 3. Find the middle term of $(3 \frac{x^3}{6})^7$? 4. Evaluate $\int \frac{dx}{x^2 16}$

PART - C

Answer any four questions (Max. 100 words)

 $4 \times 3 = 12$

1. Solve with Cramer's rule

$$3x-2y+4z=5$$
, $x+y+3z=2$, $-x+2y-z=2$

- 3x-2y+4z=5, x+y+3z=2, -x+2y-z=12. Find second order derivative of $x^3 log x$? 3. compute $(1+i)^{12}$ with the help of De'Movier theorem?
- 4. Find $\frac{d}{dx} \sec(t an \sqrt{x})$ 5. Find $\int_0^2 x^2 + 1 dx$

PART - D

Answer any two questions (Max. 300 words)

 $2 \times 5 = 10$

- 1. Find inverse of $\begin{bmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 3 & 1 & 1 \end{bmatrix}$
- 2. A random variable has following probability distribution find K and P ($x \ge 3$).

Γ	Χ	0	1	2	3	4
П	P(X)	0.1	K	2K	2K	K

3.If
$$u=x^3+y^3+2x^2y$$
, find $\frac{\partial u}{\partial x^1}, \frac{\partial u}{\partial y}$ and $\frac{\partial^2 u}{\partial x^2}$.



CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY HEAD OFFICE: GUINDY, CHENNAI - 600 032. **ACADEMIC CELL SECOND SEMESTER EXAMINATION - JULY 2022**

Max. Marks: 60 Duration :: 3 Hours Course : DPMT Date: 20.07.2022

Subject Engineering Chemistry 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 $30 \times 1 = 30$ 1. The maximum number of electrons that can be accommodated in d-subshell is (a) 2 (b) 6 (c) 10 (d) 14 2. A good fuel should have (a) Moderate ignition temperature (b) High ignition temperature (d) Both (a) and (c). (c) High calorific value 3. Aqueous solutions of acids conduct electricity. This shows that (b) They contain OH- ion (a) They contain H+ ions. (c) They contain cations and anions. (d) They contain both H+ and OH- ions 4. Which one of the following gases dissolves in water to give basic solution? (c) Nitrogen (d) Ammonia (a) Oxygen (b) Carbon dioxide 5. The heat given to an ideal gas in isothermal conditions is used to: (a) increase temperature (b) do external work (c) increase temperature and in doing external work (d) increase internal energy 6. What is thermodynamics? (a) study of the relationship between heat and other forms of energy. (b) study of the conversion of chemical energy to other forms of energy. (c) study of the relationship between mechanical energy to other forms of energy. (d) study of the conversion of mechanical energy to other forms of energy. 7. Buffer solutions are used (a) to resist pH level (b) to increase pH level (c) decrease pH level (d) None of these 8. Which of the following gases is not included in biogas? (a) CH₄ (b) H₂S (d) H_2O 9. Bomb calorimeter is used for determining the calorific value of (a) Gaseous fuel (b) Liquid fuel (c) Solid fuel (d) Both (b) and (c). 10. The high boiling point of water is due to (a) Covalent bonding (b) Ionic bonding (c) Hydrogen bonding (d) Coordinate bonding 11. The pH of basic solution is (a) 0 (d) 7 (b) less than 7 (c) greater than 7 12. Which of the following is an example for ionic compound. (a) NaCl (b) NH_3 (d) O_2 (c) H_2 13. The electrode where oxidation occurs is called (a) Anode (b) Cathode (c) Electrolyte (d) None of these 14. The general formula for alkynes is (a) $C_n H_{2n+2}$ (b) $C_n H_{2n}$ (c) $C_n H_{2n-2}$ (d) $C_n H_{2n+2}$ 15. A heat engine that operates on the Carnot cycle is called _ (b) Cyclic engine (c) Heat engine (a) Carnot engine (d) None of these 16. The reaction between an acid and a base is known as 17. Unit of calorific value of a fuel is 18. Base change red litmus paper into _____

22. The decomposition of higher chain hydrocarbon molecules into simple, low boiling hydrocarbon of

21. The process in which the volume of the gas remains constant is called the isochoric process.

lower molecular masses is called cracking. (true or false)

- 23. Temporary hardness of water can be removed by boiling the water. (true or false)
- 24. If pH of rain water falls below 5.6, it is called acid rain. (true or false)

19. Magnesium bicarbonate creates _____ hardness in water. 20. A thermo flask is an example of an system.

(true or false)

25. In an adiabatic process no heat transfer occurs between thermodynamic systems and surrounding. (true or false)



Write the full form of the following:

- 26. EBT
- 27. PPB
- 28. CNG
- 29. HCV
- 30. LCV

PART - B

Answer all questions (Max. 40 words)

 $4 \times 2 = 8$

- 1. Write the difference between isotopes and isobars.
- 2. Name the gases dissolved in water that cause corrosion.
- 3. Define octane number.
- 4. What is the composition of LPG?

PART - C

Answer any four questions (Max. 100 words)

 $4 \times 3 = 12$

- 1. Differentiate water gas and producer gas.
- 2. Why is water softened by zeolite process unfit for use in boilers?
- 3. Differentiate between Acid and Base.
- 4. What types of bond present in ammonia (NH₃)? Justify your answer.
- 5. Write the first law of thermodynamics.

PART - D

Answer any two questions (Max. 300 words)

 $2 \times 5 = 10$

- 1. Discuss the refining of crude oil and give its products.
- 2. What do you mean by softening of water? Explain one removal method of permanent hardness.
- 3. Discuss some simple test technique for organic compound.



CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY HEAD OFFICE: GUINDY, CHENNAI – 600 032. ACADEMIC CELL

SECOND SEMESTER EXAMINATION - JULY 2022

Duration 3 Hours

Max. Marks: 60

Course : DPMT

Date : 21.07.2022

Subject Computer & Information Technology

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

30 x 1 = 30

Allswei all	i questions 30 /
The control unit of microprocessor	
A. Stores data in the memory C. Performs arithmetic/logic function	B. Accepts input data from keyboardD. None of the above
Which of the following helps to reduce specified.	elling error in the document? rect C. Smart tags D. Auto text
3. Which of these toolbars allows changing of A. Standard B. Formatting	of fonts and their sizes?
 Which of the following is not a type of pag A. Left B. Right 	e margin?
5. Home key	
A. Moves the cursor to the beginning of t	the document
B. Moves the cursor to the beginning of t	
C. Moves the cursor to the beginning of t	
 D. Moves the cursor to the beginning of t 	the line
6. Using find command in word, we can search	ch c
A. Characters B. Formats	C. Symbols D. All of above
7. Thesaurus tool in MS Word is used forA. Grammar optionsC. Synonym and Antonym words	•
A. Grammar options	B. Spelling suggestions
C. Synonym and Antonym words	D. All of above
Portrait and Landscape are	
A. Page orientation B. Paper size	
9. Which of the following is used for modulation	on and demodulation?
A. Modem B. Protocols	
10. Frames from one LAN can be transmitted	
A. Router B. Bridge C. F	
11. The slowest transmission speeds are thos	se of
A. Twisted-pair wise B. Coaxial cable	C. Fibre-optic cable D. Microwaves
12. What is the maximum segment for Fibre o	ptics?
A. 500m B. 200m C. 10	00m D. 2000m
13. Communication between a computer and	a keyboard involves transmission.
A. Automatic B. Half-Duplex	C. Full-Duplex D. Simplex
14. Which of the following is a storage device	?
A. Tape B. Hard disk C.	Floppy disk D. All of the above
15. Which of the following is a part of the cent	ral processing unit?
A. Printer B. Keyboard C. Mo	ouse D. Arithmetic & Logic unit
16. Language consists of 0's &	1's.
17 is used to explore the files in	a computer.
18 option is used to get back th	
19. Installation and removal of program are m	
20 printer is a non-impact printer	
21. Bar code reader is an input device. (Say	
22. ROM is a permanent memory. (Say True of	
23. Transistor technology belongs to first gene	
24. Wndows media player is used to play aud	
25. The default location of OS files in acompu	iter is C drive. (Say True or False)



26. URL stands for 27. HTML stands for 28. USB stands for 29. TCP stands for 30. ALU stands for	
PART – B Answer all questions (Max. 40 words)	4 x 2 = 8
 What is e-mail? Explain Internet application? What is task bar? How do you create a new presentation? 	
PART – C Answer any four questions (Max. 100 words)	4 x 3 = 12
 Explain types of computer. What is MAN? What is the procedure of inserting symbols in MS WORD document? What is Protocol? What is full form of HTTP and FTP? What are the data transmission media? 	
PART – D Answer any two questions (Max. 300 words)	2 x 5 = 10
 What is CPU? Explain various parts of CPU. Define operating system and explain about multi user operating system. Explain different types of networks. 	



CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY HEAD OFFICE: GUINDY, CHENNAI – 600 032. ACADEMIC CELL SECOND SEMESTER EXAMINATION - JULY 2022

Duration: 3 Hours

Course: DPMT

Max. Marks: 60
Date: 22.07.2022

Subject Development of Life Skills 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

 $30 \times 1 = 30$

1.	A behavior change or behavior development approach designed to address a balance of three areas
	namely knowledge, attitude, and skills is called
	(a) Life skills (b) Job skills (c) Personal skills (d) Functioning skills
2.	The act of choosing between two or more courses of action is known as
	(a) Self-awareness (b) Critical thinking (c) Empathy (d) Decision making
3.	An individual's freedom to go for any kind of possible rules or ideas to reach the solution is
	(a) Syllogism (b) Algorithms (c) means-end-analysis (d) Heuristics
4.	Which method is not used to enhance life skills?
	(a) Debate (b) Role play (c) Stress (d) Case study
5.	Recognition of "self" and identifying our strengths and weaknesses, desires and dislikes is
6.	(a) self-awareness (b) empathy (c) creative thinking (d) critical thinking The model used for decision making is called:
	(a) SWOT model (b) MBTI model (c) POWER model (d) Johari-window model
7.	The psychological abilities for adaptive and positive behavior are known as
	(a) self-skill (b) vocational skills (c) life skills (d) recreational skills
8.	The relationship between two or more people is called
	(a) intimate (b) cordial (c) intra-personal (d) inter-personal
9.	The first step in the process of solving a problem is
	(a) define and identify a problem (b) evaluate the outcome
	(c) decide on a solution (d) evaluate alternatives.
10.	The reaction of our body to people, events, and our own thoughts is called
	(a) stress (b) emotion (c) relationship (d) awareness
11.	Which method is used to enhance life skills?
	(a) Stress (b) MBIT (c) Self-unawareness (d) Audio-visual activities
12.	The basic qualities required for critical thinking are
	(a) Flexibility (b) Persistence (c) Open-mindedness (d) All of the above
13.	In SWOT analysis, T stands for
	(a) Treatment (b) Tiredness (c) Thinking (d) Threat
14.	The ability to analyze information and experiences in an objective manner is called
	(a) critical thinking (b) problem solving (c) decision making (d) creative thinking
15.	Verbal skills, social skills, and body language are important aspects of
40	(a) effective communication (b) interpersonal skills (c) critical thinking (d) creative thinking
16.	is an individual's ability to appreciate the strengths and weaknesses of one's own
	character.
47	(a) Self-efficacy (b) self-esteem (c) self-regulation (d) self-awareness
17.	The goal of the
10	(a) Life skills (b) Job skills (c) Personal skills (d) Functioning skills
10.	are ways in which we learn to deal with various stressors
10	(a) coping skills (b) empathy (c) critical thinking (d) decision making
13.	is the ability to identify, cope with and find solutions to difficult or challenging situations. (a) Problem solving (b) coping skills (c) critical thinking (d) decision making
20	means everyone is in the agreement or they may live with the agreement.
۷٠.	(a) consensus (b) conflict (c) solution (d) happiness
	(a) concentrate (b) continue (c) continue (a) nappinos



- 21. We should work with our team if needed. (True/ False)
- 22. We should listen to our teachers. (True/ False)
- 23. Communication is more than just talking face to face. (True/ False)
- 24. Body language is the exchange of information through the use of words. (True/ False)
- 25. Non-verbal communication includes gestures, facial expressions, and body positions. (True/ False)
- 26. Write the extended form of LEDO.
- 27. Write the extended form of IMHO
- 28. APE stands for.
- 29. In communication ALF stands for.
- 30. What does SOFT stand for?

PART - B

Answer all questions (Max. 40 words)

 $4 \times 2 = 8$

- 1. What do you mean by attitude? Explain its components.
- 2. What do you mean by motivation?
- 3. What is the difference between hard skills and soft skills?
- 4. Explain the term "soft skill"

PART - C

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

 $4 \times 3 = 12$

- 1. What are the basic elements of life skills?
- Explain the role of chronemics in the presentation.
 What is kinesics? How does body language help in communication?
 What do you mean by professional values?
 Describe three main components of life skills.

PART - D

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

 $2 \times 5 = 10$

- 1. Write 10 (ten) characteristics of a good leader.
- 2. What are helpful tips for an effective telephonic or video interviews?
- 3. What are the essential qualities of a good employee in your opinion?
