SAMUNDRA INSTITUTE OF MARITIME STUDIES
SAMPLE QUESTION PAPER
B.TECH LATERAL ENTRY ENTRANCE EXAM

Total Qns:36

Max Marks: 40
Duration : 60 min

Instructions:
- ➢ **Question No 1 to 35 are of objective type and carry 1 mark each.**
- ➢ **Question No 36 is to be attempted separately.**

SECTION A: MATHEMATICS (10 x 1 = 10)

1.	1. The lines 3x - 6y = 0 and -4x + 8y = 7 intersect each other at: (A) One point (B) Infinitely many points (C) Two points (D) Do not intersect

2. 2. The equation of line parallel to y-axis and passing through (3,5) is

(A)	y = 5	**(B)**	y - x = 2
(C)	x + y = 8	**(D)**	x + y = 8

3. The focus of the curve $y^2 + 4x - 6y + 13 = 0$ is

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

4. If y=log(logx), then dy/dx=

(A)	1/logx	**(B)**	1/xlogx
(C)	x/logx	**(D)**	none of these

5. ∫ log ⌷xdx =

(A)	log(x + 1) + c	**(B)**	xlogx + c
(C)	x/logx + c	**(D)**	xlogx - x + c

6. The equation of the curve which passes through the point (1,3) and has a slope 4x - 3 at any point (x,y) is

(A)	y = 2x3 - 3x + 4	**(B)**	y = 2x2 - 3x + 4
(C)	x = 2y3 - 3y + 4	**(D)**	None of these

7. An organization consists of 25 members that include 4 doctors. A committee of 4 members is to be formed at random . The probability that the committee contains at least three doctors is

(A)	4/2300	**(B)**	21/12640
(C)	17/2530	**(D)**	1/2300

8. A flagstaff stands upon the top of a building. If at a distance of 40m from the base of the building, the angles of elevation of the tops of the flagstaff and the building are 60 degree and 30 degree respectively then the height of the flagstaff is

(A)	25 m	**(B)**	50 m
(C)	46.19 m	**(D)**	29.2 m

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9.	If Tan A = 1/2, Tan B = 1/3 then what is the value of Tan (2A + B) ? **[1 Mark]**		
	(A) 4	**(B)**	1
	(C) 2	**(D)**	3

10.	One radian is approximately equal to		
	(A) 180°	**(B)**	57°
	(C) 90°	**(D)**	47°

SECTION B: SCIENCE(10 x 1 = 10)

11.	Acceleration is a _____ quantity.		
	(A) vector	**(B)**	derived
	(C) linear	**(D)**	scalar

12.	When a rectangular beam is loaded transversely, the maximum compressive stress develops on		
	(A) neutral axis	**(B)**	bottom fibre
	(C) middle fibre	**(D)**	top fibre

13.	Shear stress required to produce unit rate of shear strain is called		
	(A) density	**(B)**	plasticity
	(C) elasticity	**(D)**	viscosity

14.	In inverted manometers, manometric fluid is _____ than that flowing in the pipe		
	(A) heavier	**(B)**	lighter
	(C) either A or B	**(D)**	none of these

15.	Change in internal energy in a closed system is equal to heat transferred if the reversible process takes place at constant		
	(A) pressure	**(B)**	volume
	(C) internal energy	**(D)**	temperature

16.	During throttling process		
	(A) no work is done by expanding steam	**(B)**	there is no change of internal energy of steam
	(C) heat exchange does not take place	**(D)**	all of the above

17.	The Heating effect in a Resistor carrying Current is as per the _____ LAW		
	(A) Ohm's	**(B)**	Faraday's
	(C) Joule's	**(D)**	Kirchhoff's

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18.	A Mesh is the simplest _____.		
	(A) Junction	**(B)**	Node
	(C) Loop	**(D)**	None of these

19.	Unit of mobility is _____.		
	(A) $mV^{-1}s^{-1}$	**(B)**	m^2Vs
	(C) $m^2V^{-1}s^{-1}$	**(D)**	mVs^{-1}

20.	Which material may also be considered as a semiconductor material?	
	(A) Carbon	**(B)** argon
	(C) ceramic	**(D)** mica

SECTION C: ENGLISH
Q.Fill in the blanks with most suitable word(s)given below.(10 x 1 = 10)

21.	We_____go to the bank today. We haven't got any money.		
	(A) would	**(B)**	might
	(C) can	**(D)**	must

22.	They left London at three o'clock so they _____ be here by now.		
	(A) would	**(B)**	can
	(C) could	**(D)**	should

23.	Which of these chairs did you sit _____?		
	(A) up	**(B)**	at
	(C) over	**(D)**	on

24.	We went to a cafe after the movie and had_____coffee.		
	(A) a	**(B)**	an
	(C) about	**(D)**	the

25.	I'm sorry ; I can't make you a cup of tea. I used _____all the tea bags yesterday and I didn't buy any new ones.		
	(A) out	**(B)**	in
	(C) up	**(D)**	away

26.	Who takes _____ people in hospital?		
	(A) after	**(B)**	care about
	(C) none of these	**(D)**	care of

27.	You are angry with me, ___you?		
	(A) do	**(B)**	aren't
	(C) will	**(D)**	are

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28.	He didn't paint it himself, _____he?		
	(A) was	**(B)** did	
	(C) do	**(D)** does	

29.	He is a very active child. Probably, when he grows up he _____ very good at sports.		
	(A) has been	**(B)** is	
	(C) was	**(D)** is going to be	

30.	Last week, we _____ some snow in our city but it didn't stay on the ground for a long time.		
	(A) are arriving	**(B)** have had	
	(C) have	**(D)** had	

SECTION D: Read the following passage and answer questions. (5 x 1 = 5)

They had not been long together before. Darcy told her that Bingley was also coming to wait on her; and she had barely time to express her satisfaction and prepare for such a visitor, when Bingley's quick step was heard on the stairs, and in a moment he entered the room. All Elizabeth's anger against him had been long done away; but had she still felt any, it could hardly have stood its ground against the unaffected cordiality with which he expressed himself. On seeing her again, he inquired in a friendly, though general way, after her family, and looked and spoke with the same good-humoured ease that he had ever done.

31.	For whom do you think has the word "they" been used in the first sentence of the passage?		
	(A) Darcy & Bingley.	**(B)** Bingley & Elizabeth.	
	(C) Elizabeth & Darcy.	**(D)** Elizabeth & the author.	

32.	For whom do you think has the word "her" been used in the next sentence?		
	(A) Darcy.	**(B)** Elizabeth.	
	(C) Can be either Darcy or Elizabeth.	**(D)** Bingley relegate	

33.	In what tone did the gentleman talk to the lady?		
	(A) In a harsh tone.	**(B)** In a genuinely friendly tone	
	(C) In a husky voice.	**(D)** In an unfamiliar tone.	

34.	What was the effect of this talk on the lady?		
	(A) She was spell bound.	**(B)** She found herself in an awkward situation.	
	(C) Her anger melted and she was feeling positive.	**(D)** She was very angry.	

35.	Who came to see Elizabeth?		
	(A) Darcy.	**(B)** Bingley.	
	(C) The author.	**(D)** None of the above.	

SECTION E: LETTER WRITING [5 Mark]

36.	Write a letter to the principal, requesting for leave citing a valid reason.

======== ALL THE BEST =========