Question Booklet No.

Question Booklet Series:

E01

AUAT -2018
TEST BASED ON MCQ



Lateral Entry in B. Tech (2nd Year) (E01)

(Do not open this QUESTION BOOKLET until you are asked to do so)

Full Marks:50

Duration: 1 Hour

(Use Ball point Pen to fill up this cover page of the Question Booklet)



Candidates should read the following instructions carefully and follow all the required before answering the questions: 1) The Question Booklet has paper seal pasted on it. Candidates should open the Question Booklet only when they are asked

2) The Candidates must check immediately after breaking the seal that the Question Booklet contains 40 questions. If any

discrepancy is found they must report to the Invigilator for replacement of the Question Booklet.

3) Answer will have to be given on the Special OMR Answer Sheet provided for this purpose. Question numbers progress from 1 to 40 continuously with alternative answers being shown as A, B, C and D for each question. While identifying f responding one should consider the best alternative answer and shade only one circle with black/blue ball point pen

only in the OMR answer sheet. 4) Candidates must write his/her Name, Roll No. and Name of the Examination Centre and sign at the appropriate place on the front page of the Question Booklet provided for this purpose. In the OMR Answer sheet, write the Roll Number, name of the Examination Centre and series of the Question Booklet. Write and shade the circles for Roll No. and Category Put your signature in the respective box. If any candidate fails to shade correct alternative in the specified place, his/her OMR Answer Sheet cannot be evaluated and will be liable to be rejected. There will be negative marking for wrong answers.

5) The OMR Answer Sheet provided to you contains options to answer for 60 questions only. You must shade only one circle as your response to each of the Answers from 1 to 40 only. Shading more than one alternative or circle will lead to

rejection of your response.

6) On leaving the examination hall, candidates must submit their OMR answer sheet. This is mandatory. They are allowed to keep the Question Booklet with them.

Darken completely only one CIRCLE which you think is correct as shown in the figure below;



Wrong Method

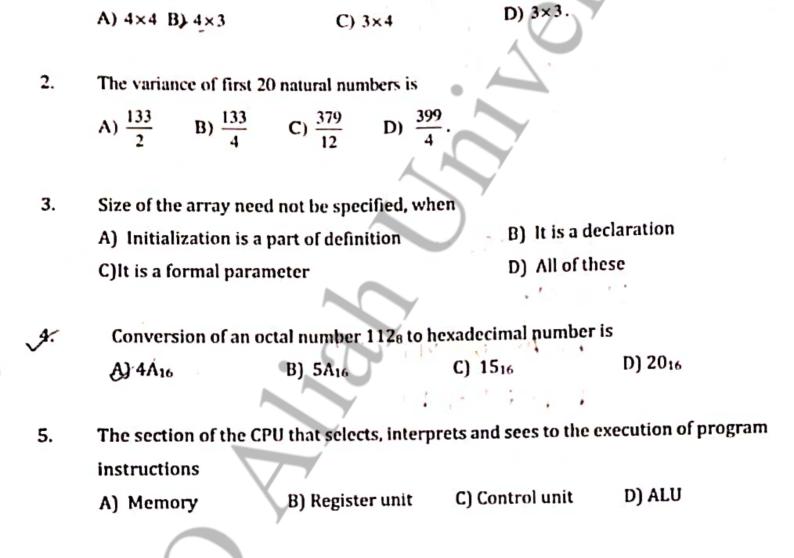


8) Answer Sheet will processed by electronic means. Any untoward/ irrelevant remarks, folding or putting stray notes on the answer sheet, any damage to the answer sheet, non-filling or wrong filling of Roll Number's on the OMR sheet shall be summarily rejected and the sole liability shall remain with the candidate.

9) Rough Work must be done at the end of the Booklet.

10) No Candidate is allowed to leave the examination hall untilend of the examination.

11) Use of any Electronic device like Mobile, Programmable Calculator etc. is strictly prohibited.



Given the matrix A has size 3×4 . Then A^TB and BA^T are possible when B has size

١.

	as ricinoty	J,		Q ⁷	
6.	Which of the follo	wing is used for modu	ation and demodi	ılation?	
	A) modem	B) protocols	C) gateway	D) multiple	ехег
7.	The first network	that planted the seeds	of Internet was_		
	A) NSFnet	B) ARPANET	C) Vnet	D) Both b)	and c)
8.	The microprocesso	or of a computer canno	t operate on any i	nformation if th	at information
		ge B) main storage	C) ALU	D) logic u	ınit
9.	IPv6 addressed h	ave a size of			
	A) 32 bits	B) 64 bits	C) 128 bits	D) 265 b	its
10.	Which of the follo	wing statements is True	both for a series	as well as a paral	lel circuit?
10.	A) Currents are ad	/	B) Voltage dro	ps are additive	

17. If
$$|\vec{a}| = 2$$
, $|\vec{b}| = 5$ and $|\vec{a} \times \vec{b}| = 8$ then $\vec{a} \cdot \vec{b}$ is equal to

B) ±6

D) none of these.

The value of f(x) is given only at $x = 0, \frac{1}{3}, \frac{2}{3}$. 1. Which of the following can be used to evaluate 12.

 $\int_0^1 f(x)dx \text{ approximately?}$

A) Trapezoidal Rule

B) Simpson 1/3rd Rule

C) Trapezoidal as well as Simpson 1/3rd Rule

D) none of these.

For the smallest positive root of transcendental equation $x - e^{-x} = 0$, the interval is 13.

A)(0,1)

C)(2,3)

D) none of these.

Complementary Function of $x^2 \frac{d^2y}{dx^2} - x \frac{dy}{dx} + y = 2x \log x$ is (14)

A) (c, + c, x)e'

B) $(c_1 + c_2 \log x)x$ C) $(c_1 + c_2 x) \log x$ D) $(c_1 + c_2 \log x)c^4$

The value of x for which the matrix
$$A = \begin{bmatrix} \frac{2}{x} & -1 & 2\\ \frac{1}{x} & x & 2x^2\\ 1 & \frac{1}{x} & 2 \end{bmatrix}$$
 is singular is

A)±1

B) ± 2

c)±3

D) none of these.

16. A constant current of 2.8 A exists in a resistor. The r.m.s. value of current is-

- A) 2.8 A.
- B) 3 A

- C) 1.4 A:
- D) Undefined

1/1. A circuit of zero leading power factor behaves as-

A) a pure inductive circuit

B) R-L circuit.

B) R-C circuit

D) a pure capacitive circuit

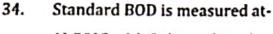
In a three-phase system, the e.m.f.s are-

- A) 30° apart
- B) 45° apart
- C) 90° apart
- D) 120° apart

		e or from the-
19,	The output power of any electrical motor is	B) field
	(A) armature	(d) none of these
	C) coupling mounted on the shaft.	
20.	A name that ra	diation emitted by a cellphone is known as. B) Specific Absorption Rate (SAR)
	A) Specific Transmit to Day (CTP)	B) Specific Absorption Rate (SAR)
	A) Specific Transmission Rate (STR) C) Specific Emission Rate (SER)	D) Specific Dispersion Rate (SDR)
21.	In a worm & worm wheel, if the worm is si	ngle-started and the number of teeth of the
	worm wheel is 50, then in order to obtain	one rotation of the worm wheel, we require
	A) 100 rotations of the worm	B) 25 rotations of the worm
	C) 50 rotations of the worm	D) 40 rotations of the worm
22.		nnecting a flange coupling to a shaft is likely to
	fail in-	
	A) Shearing or crushing	B) Tension
	C) Bending	D) Deflection
	,	

23.	Prophet Muhammad (PBUH) belonged to	family.				
23.		(/)	D. M. I.			
	A) Hashmi B) Quraishi	C) Makki	D) Madni			
24.	'Which country is called the "Land of Prophets"?					
	A) Saudi Arabia	B) Iraq				
	C) Syria	D) Palestine				
	en a sagar de la Paris	7				
25.	The wealthy Muslims give a set proportion of their wealth to charity. It is called					
	A) Salat B) Saum	C) Zabur	D) Zakat			
26.	The name of the month during which the Muslims observe fasting is					
	A) Ramadan B) Rajab	C) Shaban	D) Shawwal			
27.	Cave Hira is in the mountain.					
		C) Uhud	D) Al-Noor			
	A) As-Safa B) Sil	C) Uhud	D) 11111001			
28.	Al-Hudaibiyah Treaty was scribed by					

			C. I.F			Y	
	A)	Abu Baki	Siddique (R.A)	B) U	mar Farooq (R.	A) (15)	
	C)	UsmanGl	iani (R.A)	D) A	li Al-Murtaza (R.A)	
29.	They like swimming. Whenever they have a leisure time. (Which word is a verbal noun?)						
	A) le	eisure	B) free	C) like	D) swimming	
30.			d out" means		/		
	A) C	leaned	B) cut out	C) destr	oyed D) segregated	
31.	The tur	The turbidity of water is measured in-					
	A) Turbidity Monitoring Unit (TMoU)				B) Turbidity Metering Unit (TMU)		
	C) Optometric Turbidity Unit (OTU)			D) Nepho	D) Nephelometric Turbidity Unit (NTU)		
22	The least	!- 5		. o tie. T. d			
32.	The 'satisfactory' level of the National Air Quality Index of India is-						
	A) 201-	300	B) 101-200	C) 51-10	0 0)) 0-50	
33.	Among the following refrigerants, which refrigerant deplete the Ozone layer?						
	A) R-22		B) R-410A	C) R-290		O) R-600A	
			Y				



- A) 20°C with 3 days of incubation
- B) 25°C with 3 days of incubation
- C) 30°C with 5 days of incubation
- D) 20°C with 5 days of incubation

35. A wire having initial diameter 2 mm is elongated by a longitudinal strain of 0.1%. If Poisson's ratio is 0.5, what will be its final diameter?

- A) 2.001 mm
- B) 1.999 mm
- C) 1.657 mm
- D) Remains unchanged

36: If E = Young's modulus, G = rigidity modulus and μ = Poisson's ratio, then -

- A) $E = 2G(1 + \mu)$
- B) $E = 3G (1 + \mu)$
- C) $E = 2G(1 \mu)$
- D) $E = 3G (1 + 2\mu)$

37. Polar moment of inertia of a circular area of diameter 'D' is given by-

- A) 0.0589 D4
- B) 0.0326 D4
- C) 0.0721 D4
- D) 0.0982 D4

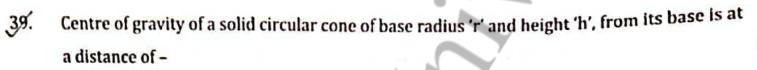
38. With rise in temperature, Young's modulus of elasticity of a material-

A) Increases

B) Deceases

C) Remains unchanged

D) May increase or decrease



A) 0.25r

B) 0.333r

C) 0.333h

D) 0.25h

40. Moment of a force about a point can be represented by-

- A) Area of a triangle
- B) Twice the area of a triangle
- C) Half the area of a triangle
- D) Moment cannot be represented by any geometrical figure