JUNIOR LAB ASSISTANT (ELECTRICAL) PART-A

1. Identify the error (if any) in the sentence given below: The call of the seas have always found an echo in me.

- A. The call of the seas
- B. have always found
- C. an echo in me
- D. No error

2. Ramesh has a meeting with Rohit at the same date.

A. Ramesh has

B. a meeting with Rohit

C. at the same date

D. No error

3. In the following question, pick out the most effective word from the given choices to fill in the blank to make the sentence meaningfully correct.

regular supply	of electr	icity can	in wastage of electricity.	
A. cause		B. affect	C. effect	D. result

4. In the following question, a sentence has been given in Active/Passive voice. Out of the four alternatives given, choose the one which best expresses the same sentence in Passive/Active voice.

I saw him leaving the house.

- A. He had been seen leaving the house.
- B. He was seen to be leaving the house.
- C. Leaving the house he was seen by me.

D. He was seen leaving the house by me.

5. In the following question, a sentence has been given in Direct/Indirect Speech. Out of the four alternatives given, choose the one which best expresses the same sentence in Indirect/Direct Speech.

He said to her, "Don't read so fast."

- A. He told her not to read so fast.
- B. He advised her don't read so fast.
- C. He requested her not to read so fast.
- D. He ordered her not to read so fast.

6. Who was the founder of Nanda dynasty in Magadha? A. Mahapadma Nanda B. Dhana Nanda C. Nanda

da B. Dhana Nanda C. Nandi Vardhan D. Mahanandin

7. The layer v	which is found below t	he crust of the earth	is?
A. Trench	B. Mantle	C. Core	D. Ridge

8. What does GNP stand for?

A. Gramin Nigam Limited

C. Gross National Product

B. Gramin Nisak ProductD. Grocery National Production

9.	Where is the	National	Institute of I	Hydrology (NIH) located?	
	Roorkee		B. Shimla	C. Guwahati	

D. Chennai

10. Who is the first Asian man to be nominated for International Tennis Hall of Fame? A. Leander Paes B. Mahesh Bhupathi C. Rohan Bopanna D. Yuki Bhambri 11. How many 3-digit numbers are there in between 100 and 300, having first and the last digit as 2? B. 10 A. 9 C. 11 D. 12 12. A man's basis pay for a 40 hours' week is Rs. 200. Overtime is paid at 25% above the basic rate. In a certain week, he worked overtime and his total was Rs. 300. He, therefore, worked for a total of (in hours)? A. 52 B. 56 C. 58 D. 62 13. Four years ago, the average age of A and B was 18 years. At present the average age of A, B and C is 24 years. What would be the age of C after 8 years. A. 25 years B. 28 years C. 32 years D. 36 years 14. Raghav spends 80% of his income. If his income increases by 12% and the savings decrease by 10%, then what will be the percentage increase in his expenditure? A. 20.5 B. 16 C. 17.5 D. 22 15. A carpenter is designing a table. The table will be in the form of a rectangle whose length is 4 feet more than its width. How long should the table be if the carpenter wants the area of the table to be 45 sq ft? A. 6 ft B.9 ft C.11 ft D. 13 ft 16. In the following question, there is a certain relationship between two given words on one side of : : and one word is given on another side of : while another word is to be found from the given alternatives. Milk : Emulsion : : Butter : ? A. Aerosol B. Suspension C. Sol D. Gel 17. Select the number that can replace the question mark (?) in the following series. 87, 89, 92, 97, 104, 115, ?, 145 A. 125 B. 128 C. 133 D. 132 18. In the following question consist of two words each that have a certain relationship to each other, followed by four lettered pairs of words. Select the lettered pair that has the same relationship as the original pair of words printed in bold. **Termite : Wood** A. Neem : Cotton B. Fibre : Jute C. Thread : Cloth D. Moth : Wool 19. Unscramble the letters in the words given in this question and find the odd one out? A. ULME C. KYDENO D. LCEAM **B. RIGTE** 20. Study the following alphabetical sequence and answer the question following it. ABBCDEFEIBCAFECBBACAOBNUVW Question: If all the vowels are dropped from the series, then which alphabet will be eighth from the left end? A.C C.N B. B D.F \*\* \*\*\*\*\* З

REALS STATISTICS FILST TO PERSON AND THE PERSON AND PART-B

9

			PERSONAL MARCHARTS
		The wire is s	tretched to triple its length, the
1	Resistance of a wire is	r ohms. The wife is o	
570	resistance in ohm is	(B)	
	(A) r/3		r/9
	(C) 3r	(D)	rallal combination of two volta
2	A 10 Q resistor is conne	ected in shunt to a pa	rallel combination of two voltag
1-	sources each one of 10		
1	(A) 0 A		
1		(D)	100 A
3	(C) 20 A While calculating R <sub>th</sub> , co	instant current source	es in the circuit are
	(A) replaced by 'opens'		a management of a second
dime -	(D) may la sa al hu laharta'		
	(C) treated in parallel wi	th other voltage source	ces and has not keep don't as
	(D) converted to equival	ent voltage sources	and the providence of
4	The time constant of an	R-C circuit is defined	d as the time during which cap
ų	charging current become	Sedő a Hierottória (	percent of its value
	$(\Lambda)$ 27 final		(B) 63 final
	(C) 63, initial	such piller dal fai	(D) 37, initial
5	What will be the the for	ce in free space bet	ween two like point charges of
-	each placed 1 mt and 2 r	mt anart?	
	(A) $10^9$ N and $0.5*10^9$ N		(B) 4.5*10 <sup>9</sup>
		ens marriso dona totib	at man be dive the state
	(C) 9*10 <sup>9</sup> N and 4.5*10 <sup>9</sup>	N	(D) 9*10 <sup>9</sup> N and 2.2
	N AN	of study . Start the the	
6	Thevenin's equivalent of	the circuit shown belo	w to the left of $R_i$ is
		B) 8V, 9 $\Omega$ $\Gamma^{}$	
		$\dot{\mathbf{n}}$	
· ····			$3\Omega \left[ \begin{array}{c} 7\Omega \\ \end{array} \right] \left[ \begin{array}{c} \end{array} \right]$
	Second		$2 V  \leq 6 \Omega     R_L \leq  $
2 - L	이상 성격 선생님은 것이 것이 같아.	그 집안 같은 말랐다. 말 말 한 것	
	month Million Tay and the	in the off the off the second second	
	The average power dissip	ated (Matt) in the cir	Network A Network B
1	a a ge perier a cop		cuit shown below is
	한 것 같아요. 그는 것도 한 것을 했는지?		also we bet by some some in a subset of a second second of the
	a de la construcción de la constru La construcción de la construcción d		$=80\Omega$
No.		50 Hz	- 2012년 2013년 1월 1913년 1917년 1918년 1918 1919년 1월 1919년 1919년 1919년 1919년 1919년 1919년 1919년 1919년 1918년 1918년 1918년 1918년 1918년 1918년 1918년 1918년 1918년 1919년 1월 1919년 1918년
	그는 그 것 이번걸 같은 이번들에 나는 것같		С = 20µF
	A) 133.4 (B) 265.	4 (C) 1.15	
	ind the value of <b>R</b> in the cir	Cuit shown below	4 (D) 0.58
F		Call Onown Delow.	
F   (A	Α)25 Ω		
· (/	A)25 Ω		/ <sub>1 20Ω</sub>
( <i>F</i>	A)25 Ω B)20 Ω		
() (E	A)25 Ω B)20 Ω C)10 Ω		
(A (E (C	A)25 Ω B)20 Ω		
(A (E (C	A)25 Ω B)20 Ω C)10 Ω		
(A (E (C	A)25 Ω B)20 Ω C)10 Ω		
(A (E (C	A)25 Ω B)20 Ω C)10 Ω		
() (E	A)25 Ω B)20 Ω C)10 Ω		

2

		hich of the following truly represents the Thevenin's equivalent circuit when a
·		bitage source of 24 V undergoes a voltage drop of 0.6 V due to a load current of
	1/	A?
		A) $V_{th} = 24 V$ , $R_{th} = 0.6 \Omega$
		$B)V_{th} = 24 V, R_{th} = 24 \Omega$
		C) $V_{th} = 23.4 \text{ V}, \text{ R}_{th} = 0.6 \Omega$
		D) $V_{th} = 23.4 \text{ V}, \text{ R}_{th} = 23.4 \Omega$
0		A ramp voltage $V(t) = 100t V$ , is applied to an RC differencing circuit with R = 5
		$\Omega$ and C = 4 $\mu$ F. The maximum power output voltage is
		A) 0.2 V (B) 2.0 V (C) 10.0 V (D) 50.0 V
11		The power factor of a resonance circuit at resonance frequency is
		(A) 1 (B) 0.5
10		(C) 0.85 (D) 0
12		The resonance frequency of an L-C-R circuit is 120 Hz. The value of resistance is
		changed from 50 ohm to 100 ohm. What will be new resonance frequency?
		(A) 50 Hz (B) 240 Hz
13		(C) 60 Hz (D) 120 Hz (D) 120 Hz (214 t + $2\pi/2$ ). The
13		In an R-L-C circuit, $v(t) = 20 \sin (314t + 5\pi/6)$ and $i(t) = 10 \sin (314t + 2\pi/3)$ . The
		p.f. of the circuit is (A) 0.5 lead (B) 0.866 lag
14		
1		The input of an a.c. circuit having p.f. of 0.8 lagging is 20 kVA. The power drawn by the circuit is $kW$ .
		(A) 12 (B) 20
		(C) 16 (D) 8
15		The impedances of two parallel branches of a circuit are (10 + j10) and (10- j10)
		respectively. The impedance of the parallel combination is
1 34	1	(A) 10+j0 (B) 100 –j100
		(C) 10-j10 (D) 100+j100
16		In inductive circuit, when Inductance (L) or inductive reactance (XL) increases,
18 1	×	the circuit current decreases, but the circuit power factor?
and and	-	(A) Increases
4.1	1	(B) Also Decreases Absorption lawrid givan by
		(C) Remain Same
-		(D) None of the above
17	,	
a marine		(A) Z=1/Y (B) Z=1+Y
1	6991	(B) Z=1+Y set have denoted by the set of a set of the s
- 12		(C) Z = 1 - Y = 0 (C) Z = 1 - Y = 0 (2) (2) (2) (2) (2) (2) (2) (2) (2) (2)
18	0	$(D)Z=Y^{2}$
	0	Average value of a sinusoidal alternating signal is ———-for a full cycle. (A) Maximum
	25	그는 그는 그는 것 전화가 이 가 가 다 다 다 다 다 다 다 다 다 다 다 다 다 다 다 다
		「「「「「「」」」、「「」」」、「「」」、「「」」、「「」」、「」」、「「」」、「」」、「」」、「」」、「」」、「」、「
		(C) Finite Value (A) (D) Infinite
1	9	In the pure capacitive circuit, the current always behind the voltage.
1		(A) 180° leads
. 1		
2 <sup>1</sup> ;		- 그는 그는 그는 그는 그는 것은 지난 야정에 가지 않는 것을 수 있는 것이 같이 많은 것이 같은 것이 같이 많이 많이 많이 나라. 이 가지 않는 것을 물러 잡다. 나는 물러 물러 나라 나는 것이 나라. 나는 물러 물러 물러 물러 물러 나라.
-		mN 61 (8) 3
and the second second second		- 이미 가지 가지 않는 것이

I THE ADDRESS OF	(B) 90° leads		and the second second
•	(C) 90° lags		
20	(D) 180° lags	nce and impe	edance of an AC circuit is called
20	(A) power factor	ince and impo	salled
	(B) admittance		
	(C) conductance		
	(D) none is correct	n an	
21	In the 2-wattmeter method	od of measu	rring 3-phase power, the two wat nen load power factor angle is
i	ndicate equal and opposit	e readings wh	hen load power factor angle is
1 10	icgree lagging.		
	A) 60		(B) 0
	<u>C) 30</u>	1	<u>(D) 90</u> ad has one phase voltage V <sub>c</sub> = 277 to line voltage V <sub>AB</sub> is
22 A	balanced three-phase Y-	connected loa	ad has one phase voltage $V_c = 277$
	The phase sequence is a	bc. The line t	o line voltage $V_{AB}$ is
23 Th	<u>) 480 &lt; 45° V (B)480 &lt;- 4</u>	45° V (C) 339	9< 45° V (D) 339<- 45° V
	e neutral to phase voltage	e of a 3-ph sta	ar connected power supply is 220 V
	nat would be the line to line 220 V	e voltage?	man and a serie to tegat an
	127 V		(B) 381 V
			(D) 440 V
	ver in a Three Phase Circl P = 3 V <sub>Ph</sub> I <sub>Ph</sub> CosΦ	uit =	
	$P = \sqrt{3} V_L I_L \cos \Phi$		I would and to esphere when it
		a martine is to martin	No echebsonii en l'Iblevitos (e e -
	Both 1 & 2. None of The Abovo	$0 \cap \{\Theta\}$	
(D) N	None of The Above	01.(9)	
25 In a ti	<u>None of The Above</u> hree phase AC circuit, the	01.(9)	aree generated voltages is
25 (D) I 25 In a ti (A) Ir	<u>None of The Above</u> hree phase AC circuit, the nfinite (∞)	01.(9)	
(D) 1 25 In a ti (A) Ir (B) Z	<u>None of The Above</u> hree phase AC circuit, the nfinite (∞) ero (0)	01.(9)	
(D) I 25 In a t (A) Ir (B) Ze (C) O	<u>None of The Above</u> hree phase AC circuit, the nfinite (∞) ero (0) ne (1)	01.(9)	
(D) N 25 In a ti (A) Ir (B) Zo (C) O (D) No	None of The Above hree phase AC circuit, the ofinite (∞) ero (0) ne (1) one of the above	sum of all th	
(D) N 25 In a tr (A) Ir (B) Zo (C) O (D) No 26 Lamina	None of The Above hree phase AC circuit, the offinite (∞) ero (0) ne (1) one of the above ated cores are used to red	sum of all th	nree generated voltages is
(D) N 25 In a ti (A) Ir (B) Zo (C) O (D) No 26 Lamina (A) I <sup>2</sup> R	None of The Above hree phase AC circuit, the offinite (∞) ero (0) ne (1) one of the above ated cores are used to red Loss	e sum of all th duce (B)	nree generated voltages is Hysteresis Loss
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(D) N 25 In a ti (A) Ir (B) Zo (C) O (D) No 26 Lamina (A) I <sup>2</sup> R (B) Edd 27 A single resistand (A) 16 of	None of The Above hree phase AC circuit, the offinite (∞) ero (0) one (1) one of the above ated cores are used to red Loss y Current Loss -phase transformer has to ce of 1 ohm, this resistant of 1 ohm, this resistant	e sum of all th duce (B) (D) A turns ratio of 4 tuce as referre n	Hysteresis Loss
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(D) N 25 In a ti (A) Ir (B) Zo (C) O (D) No 26 Lamina (A) I <sup>2</sup> R (B) Edd 27 A single resistant (A) 16 of (C) 0.25 c 28 A single-p	None of The Above hree phase AC circuit, the finite ( $\infty$ ) ero (0) ne (1) one of the above ated cores are used to real toss y Current Loss -phase transformer has to ce of 1 ohm, this resistant form (B) 4 ohm ohm (D) 0.062 phase transformer is sup-	e sum of all th duce (B) (D) A turns ratio of 4 turns ratio of 4 toce as referre 1 5 ohm	Hysteresis Loss Il of the above 4:1. If the secondary winding has d to the primary will be
(D) N 25 In a ti (A) Ir (B) Zo (C) O (D) No 26 Lamina (A) I <sup>2</sup> R (B) Edd 27 A single resistant (A) 16 of (C) 0.25 o 28 A single-p 11 kV. Wf	None of The Above hree phase AC circuit, the offinite ( $\infty$ ) ero (0) ne (1) one of the above ated cores are used to red Loss y Current Loss -phase transformer has to ce of 1 ohm, this resistant of 1 ohm, this resistant (B) 4 ohm ohm (D) 0.062 ohase transformer is sup then the load is disconnet	e sum of all th duce (B) (D) A turns ratio of 4 turns ratio of 4 toce as referre toce as referre b 5 ohm plying power cted, the term	Hysteresis Loss Il of the above 4:1. If the secondary winding has to the primary will be
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(D) N 25 In a ti (A) Ir (B) Zo (C) O (D) No 26 Lamina (A) I <sup>2</sup> R (B) Edd 27 A single resistand (A) 16 of (C) 0.25 o 28 A single-p 11 kV. Wh The voltag (A) 55% (C) 5% 29 In a dc serie	None of The Above hree phase AC circuit, the finite ( $\infty$ ) ero (0) ne (1) one of the above ated cores are used to reach Loss y Current Loss y Current Loss y Current Loss y Current Loss y Current Sormer has the ce of 1 ohm, this resistant ohm (B) 4 ohm ohm (D) 0.062 ohase transformer is sup then the load is disconneous per regulation of this trans	e sum of all th duce (B) (D) A turns ratio of 4 turns ratio of 4 toce as referre 5 ohm 5 ohm plying power cted, the term sformer for th veloped is 20 oped becom	Hysteresis Loss II of the above 4:1. If the secondary winding has d to the primary will be to a load at a terminal voltage of ninal voltage becomes 11.5 kV. is load is (B) 11.55% (D) 2.5% Nm at a current of 20 A. If the nes
(D) N 25 In a ti (A) Ir (B) Zo (C) O (D) No 26 Lamina (A) I <sup>2</sup> R (B) Edd 27 A single resistand (A) 16 of (C) 0.25 o 28 A single-p 11 kV. VVF The voltag (A) 55% (C) 5% 29 In a dc serie current is do (A) 20 Nm	None of The Above hree phase AC circuit, the finite ( $\infty$ ) ero (0) ne (1) one of the above ated cores are used to real toss y Current Loss -phase transformer has to ce of 1 ohm, this resistant ohm (B) 4 ohm ohm (D) 0.062 ohase transformer is sup then the load is disconneal phen the load is disconneal the regulation of this trans	e sum of all th duce (B) (D) A turns ratio of 4 turns rat	Aree generated voltages is Hysteresis Loss Il of the above 4:1. If the secondary winding has do to the primary will be to a load at a terminal voltage of ninal voltage becomes 11.5 kV. his load is (B) 11.55% (D) 2.5% O Nm at a current of 20 A. If the les 40 Nm
(D) N 25 In a ti (A) Ir (B) Zd (C) O (D) Nd 26 Lamina (A) I <sup>2</sup> R (B) Edd 27 A single resistand (A) 16 of (C) 0.25 28 A single-p 11 kV. Wf The voltag (A) 55% (C) 5% 29 In a dc serie current is do (A) 20 Nm (C) 80 Nm	None of The Above hree phase AC circuit, the finite ( $\infty$ ) ero (0) ne (1) one of the above ated cores are used to real toss y Current Loss -phase transformer has to ce of 1 ohm, this resistant ohm (B) 4 ohm ohm (D) 0.062 ohase transformer is sup then the load is disconneal phen the load is disconneal the regulation of this trans	e sum of all th duce (B) (D) A turns ratio of 4 turns ratio of 4 toce as referre 5 ohm plying power cted, the term former for th veloped is 20 oped becom (B) (D)	Aree generated voltages is Hysteresis Loss <u>II of the above</u> 4:1. If the secondary winding has do to the primary will be to a load at a terminal voltage of ninal voltage becomes 11.5 kV. his load is (B) 11.55% (D) 2.5% O Nm at a current of 20 A. If the nes 40 Nm 160 Nm

2	(B) in series with load
	(C) in parallel with armature winding
	(D) in series with armature winding
1	The reverse current in a diode is of the order of
· · · · · ·	(A) kA
	(B) mA
	(D) A The forward voltage drop across a silicon diode is about
2	
	(A) 2.5 V
	(B) 3 V
	(C) 10 V
	(D) 0.7 V doped
33	(D) 0.7 V The base of a transistor is doped
	(A) heavily
	(B) moderately
	(C) lightly
	(D) none of the above In a PNP transistor, the current carriers are
34	In a PNP transistor, the current carriere are man
	(A) acceptor ions
	(B) donor ions
	(C) free electrons
	(D) holes When a differential amplifier is operated single-ended,
35	When a differential amplifier is operated email
	(A) the output is grounded
10	<ul> <li>(A) the output is grounded</li> <li>(B) one input is grounded and signal is applied to the other</li> </ul>
1.10	(C) both inputs are connected together
	(D) the output is not inverted (D) the output is not inverted
36	(D) the output is not inverted The given hexadecimal number (1E.53) <sub>16</sub> is equivalent to
÷	(A) (35.684) <sup>8</sup>
1	(B) (36.246) <sub>8</sub> (C) (34.340) <sub>8</sub>
	(D) (35.599) <sub>8</sub> The expression for Absorption law is given by
37	The expression for Absorption law to 9
	$(\Delta) A + AB = A$
	(B) A + AB = B
	$(c) \land B + AA' = A$
24 24	$\mathbf{D} = \mathbf{D} \pm \mathbf{A}$
	$\begin{array}{c c} (D)A + B = B + A \\ \hline (D)A + B = B + A \\ \hline (D)A + B = B + A \\ \hline (D)A + B \\ \hline (D)A \\ \hline (D)A + B \\ \hline (D)A \\ \hline (D)A$
3	
	(A)AD + D(A + C)
	(B)(A + D)(A + D)
-	(C) A B + AB O
	(D) (A + C)B DeMorgan's theorem states that
1	DoMorgan's theorem states and
	$(\Lambda (\Lambda B)) = A + D$
	$\left( \left( P \right) \left( A + B \right) \right) = A D$
	$(c) \Lambda' + B' = A D$
and the second se	(C)A + B (D)(AB)' = A' + B
	(D)(AB)' = A' + B
	<u></u>

	40 What is a multiplexer? (A) It is a type of decoder which decodes several inputs and gives one output (B) A multiplexer is a device which converts many signals into one (C) It takes one input and results into many output (D) It is a type of encoder which decodes several inputs and gives one output
	<ul> <li>A system which is linear is said to obey the rules of</li> <li>(A) scaling</li> <li>(B) Additivity</li> <li>(C) both scaling and additivity</li> <li>(D) homogeneity</li> </ul>
	42 What is the time period of the function x[n] = exp(jwn)? (A) pi/2w (B) pi/w (C) 2pi/w (D) 4pi/w
	(A) Unstable (B) Stable (C) Partially Stable (D) All of the mentioned
	<ul> <li>What are the conditions called which are required for a signal to fulfil to be represented as Fourier series?</li> <li>(A) Dirichlet's conditions</li> <li>(B) Gibbs phenomenon</li> <li>(C) Fourier conditions</li> <li>(D) Fourier phenomenon</li> <li>What are the two formations</li> </ul>
46	<ul> <li>What are the two types of Fourier series?</li> <li>(A) Trigonometric and exponential</li> <li>(B) Trigonometric and logarithmic</li> <li>(C) Exponential and logarithmic</li> <li>(D) Trigonometric only</li> </ul>
	<ul> <li>(A) Change in amplitude Modulation?</li> <li>(A) Change in amplitude of carrier according to modulating signal amplitude</li> <li>(B) Change in frequency of carrier according to modulating signal amplitude</li> <li>(C) Change in amplitude of carrier according to modulating signal frequency</li> <li>(D) Change in amplitude of modulating signal according to carrier signal</li> </ul>
47	If the value of resistor becomes 16 times than its previous value then its noise voltage will become (A) 16 times (B) 8 times (C) 4 times (D) 2 times
	Maximum Amplitude of an amplitude modulated 10V and minimum amplitude is 5V. Find its modulation index? (A) 0.65 (B) 0.9 (C) 0.33

6

>	(D) 1
49	If peak voltage of a carrier wave is 10V, what is the peak voltage of modulating
	signal if modulation index is 50%?
	(Å) 10V
	(B) 20V
R. 1. 200 - 10	(C) 8V
	(D) 5V
50	Aspect ratio is the ratio of
00	(A) width to height
1	(B) height to width
	(C) power to width
	(D) width to power

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