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JE Question paper 2012

Based on Memory

	1	asca on	TVICITION y	
1.	What is the value	of knee voltage of si	licon diode?	
	1) 0.3 V	2) 0.33 V	3) 0.7 V	4) 1.1 V
2.	Which organisation form the Indian Co		to constitute the Cons	stitution Assembly to
	1) Swaraj Party in	1928	2) Indian National	Congress in 1936
	3) Muslim League	in 1942	4) By all parties co	onvention in 1946
3.			nd 15 volt across the all d be the supply volta	
	1) 20 volt	2) 15 volt	3) 25 volt	4) 17.5 volt
4.	A transformer mai	nly transforms		
	1) Current	2) Voltage	3) Frequency	4) Power
5.	What is the power	r factor of a pure res	istor circuit?	
	1) One	2) Zero	3) Leading	4) Lagging
6.	Functions of N.S.I	O.L. are related to-		
	1) Bearer bonds	2) GDRs	3) Electronic share	4) Debenture
7.	There are rings are	ound which of the fo	llowing planets?	
	1) Uranus	2) mars	3) Jupiter	4) Saturn
8.	is used to heat	the non-conductors		
	1) Eddy current he	eating	2) Arc heating	
	3) Induction heating	ng	4) Dielectric heatin	ıg
9.	What is the S.I. U	nit of magnetic flux	density?	
	1) Gauss	2) Tesla	3) Oersted	4) Weber

10.	Which type of oscillator is most stable in simple circuit?			
	1) Crystalline oscill	ator	2) Clapp oscillator	
	3) Colpitts oscillato	r	4) Armstrong oscill	lator
11.	Where is the headqu	uarters of Geologica	al Survey of India loc	cated?
	1) Patna	2) Dehradun	3) Kolkata	4) Agra
12.	What is the proper	use of signal genera	tor?	
	1) Designing	2) Testing	3) Repairing	4) All the above
13.	Nasik is situated on	the bank of which	river?	
	a) Godavari	2) Narmada	3) Tapti	4) Shipra
14.	Who started the Sha	aka era?		
	1) Ashoka		2) Chandragupta-I	[
	3) Kanishka		4) Harsha	
15.	If one cylinder of a	diesel engine receiv	es more fuel than the	others, then for that
	cylinder the			
	1) exhaust till be smoky			
	2) piston rings would stick into piston grooves			
	3) scavenging occur) scavenging occurs		
	4) engine starts ove	rheating		
16.	The information is sent by CW transmitter by-			
	1) Changing the aud	dio frequency	2) Interrupting radi	o signal
	3) Using microphor	ne	4) Using camera	
17.	Moisture can be ren	noved from lubricat	ing oil using	
	1) Tubular centrifug	gal	2) Clarifier	
	3) Sparkler filter		4) Vacuum leaf filt	er
18.	The rank of the fol	lowing matrix is-		
	$ \begin{bmatrix} 1 & 1 & 0 \\ 1 & 1 & 0 \\ 1 & 1 & 0 \end{bmatrix} $			
	1) 0	2) 1	3) 2	4) 3
19.	Germanium possess	ses-		
	1) Two valence elec		2) Three valence el	
	3) Four valence elec	ctrons	4) Five valence ele	ctrons

20.	Share of export from India is the maxin	num to the following	g country-
	1) U.S.A. 2) U.K.	3) U.A.E.	4) Japan
21.	Which of the following is not a property	y of difference ampli	ifier?
	1) Capacitor is used in it	2) It is used to com	pare two signals
	3) Difference amplifier yields more than	n the direct couple as	mplifier
	4) Frequency of difference amplifier real	mains flat from zero	to high frequency
22.	Where are the caves of Ajanta located?		
	1) Orissa	2) Kerala	
	3) Maharashtra	4) Madhya Pradesh	l
23.	Calorie value is the least of the following		
	1) Coal gas 2) Producer gas	· -	4) Oil gas
24.	The value of $\int \frac{x}{\cos^2 x}$ is equal to which	of the following?	
	1) x tan x	2) log cos x	
	3) $x \tan x + \log \cos t$	4) x tan x - log cos	5 X
25.	The colonial system of the company wa	as formalized by-	
	1) Battle of Plassey	2) Battle of Buxar	
	3) Battle of Panipat	4) Battle of Wandiv	wash
26.	Natural rubber is polymer of-		
	1) Isobutane 2) Isoprene	3) Propane	4) Isopropene
27.	For generating large currents on D.C. ge	enerators which wind	ling is generally pre-
	ferred?		
	1) Progressive wave winding	2) Lap winding	
	3) Retrogressive wave winding	4) Current depends	on design
28.	A.C. servomotor is basically a/ an		
	1) Universal motor 2) Single phase inc	duction motor	
	3) Two phase induction motor	4) Three phase indu	uction motor
29.	co-efficient of velocity as compared to	the coefficient of dis	scharge is-
	1) Less	2) More	
	3) Equal	4) Less or more de	pending on flow

30.	The capacitance, in force-current analogy, is analogous to-			
	1) Momentum	2) Velocity	3) Displacement	4) Mass
31.	signal will beco	me zero when the	feedback signal and	reference signs are
	equal.			
	1) Input	2) Actuating	3) Feedback	4) Reference
32.	Most of the weather	r phenomena take pi	lace in the-	
	1) Stratosphere	2) Troposphere	3) Tropopause	4) Ionosphere
33.	Motor-generator se	t for D.C. are weldi	ng has generator of-	
	1) Series type		2) Shunt type	
	3) Differentially con		_	
34.	Which of the follow consideration?	ing motors is prefer	red when quick speed	d reversal is the main
	1) Squirrel cage ind	luction motor	2) Wound rotor ind	uction motor
	3) Synchronous mo	tor	4) D.C.motor	
35.	In case of ball bearings, which part is made harder than others-			
	1) Ball	2) Outer-race		
	3) Inner race	4) All are made eq	ually hard	
36.	Selectivity of the re	ceiver can be increa	ased by which of the	following?
	1) By using more tu	ned circuit		
	2) By decreasing nu	ımber of tuned circu	ıit	
	3) By using loudspe	eaker		
	4) By increasing ga	in of the receiver		
37.	An electronics circu	uits in which differ	ent components sucl	n as Diode, Resistor
	and Capacitor etc. a	re connected separa	ntely is called-	
	1) Chassis	2) Printed board		
	3) Integrated circuit	4) Discrete circuit		
38.	Indicated power of	a 4-stroke engine is	equal to-	
	1) pLAN	2) 2pLAN	$3) \frac{\text{pLAN}}{2}$	4) 4pLAN
	where $p = Mean eff$ of engine	Sective pressure, L =	Stroke, A = Area of	piston and N = rpm

39.	What are Ferrites?			
	1) Magnetic but hav	ve low resistance	2) Magnetic but ha	ve high resistance
	3) Non-magnetic w	ith low resistance	4) Non-magnetic v	with high resistance
40.	The translator prog	ram that converts s	source code in high	level language into
	machine code line b	by line is called-		
	1) Assembler	2) Compiler	3) Loader	4) Interpreter
41.	National Library, th	e largest in India is	located at-	
	1) Chennai	2) Mumbai	3) Delhi	4) Kolkata
42.	Pak Strait joins whi	ch of the following	two countries-	
	1) India-Pakistan	2) India-Myanmar	3) India-Sri lanka	4) None of these
43.	Who had appointed	the first Prime Min	ister of India?	
	1) Lord Mountbatte	n	2) C.Rajagopalacha	ari
	3) President of Indi	a	4) None of these	
44.	Who had demarcate	ed the border-line be	etween India and Pal	xistan?
	1) McMohan	2) Lord Durand	3) Radcliffe	4) None of these
45.	Approximate therm	al efficiency of petr	ol engine is-	
	1) 20%	2) 30%	3) 50%	4) 75%
46.	Which of the follow	ving is the universal	gate?	
	1) NAND-Gate	2) OR-Gate	3) AND-Gate	4) NOT-Gate
47.	How will a red flow	ver appear, if it is se	en through a green g	alass?
	1) Red	2) Brown	3) White	4) Green
48.	What is the unit of	electrical energy?		
	1) Ampere	2) volt	3) Watt	4) Kilowatt-hour
49.	A diode			
	1) Functions only in	n one direction		
	2) Functions in both	n the directions		
	3) Does not function	n at all		
	4) It gets damaged,	when voltage is app	olied	
50.	What is the frequen			
	1) 488 kHz	2) 445 kHz	3) 455 kHz	4) 456 kHz
51.	,	•	on the basis of langu	,
J1.	1) 1947	2) 1950	3) 1956	4) 1952
	1) 1741	4) 1930	3) 1930	T) 1934

52.	What would be the expenditure in 30 days at the rate of 50 paise per unit, if a			
	bulb of 100 W is us	-	•	
	1) Rs.10.50	2) Rs.8.50	3) Rs.7.50	4) Rs.9.50
53.	Lever functions on	which of the follow	ving principles?	
	1) Crank-shaft	2) Joining rod	3) Crank pin	4) Cross head
54.	Protein is not availa	able in which of the	e following?	
	1) Meat	2) Milk	3) Rice	4) Pulse
55.	In steam turbine the	e action of steam is	_	
	1) Stable		2) Dynamic	
	3) Stable and dynar	nic	4) Neither stable r	nor dynamic
56.	Among the following	ng statement which	is the false?	
	1) Only minority impurities are added in a junction diode			
	2) Higher temperature increases the leakage current of diode			
	3) A simple zener diode works when connected between anode to cathode			
	4) Zener is mostly to	used in voltage regu	ılator	
57.	In resistance heating	ng, highest workin	g temperature is ob	otained from heating
	elements made of	••		
	1) Nickel and coppe	er	2) Nichrome	
	3) Silicon carbide		4) Silver	
58.	In higher pair, the r	elative motion is-		
	1) Purely turning	2) Purely sliding		
	3) Purely rotary	4) Combination o	f sliding and turning	
59.	The least populated	Stae in India is-		
	1) Goa		2) Sikkim	
	3) Manipur		4) Arunachal Prad	esh
60.	In case of gas turbi	nes, the gaseous fue	el consumption guara	antees are based on-
	1) High heat value		2) Low heat value	
	3) Net calorific value	ue	4) Middle heat val	lue
61.	In a resistive load,	power dissipation v	vould be proportiona	1 to-
	1) Current	2) $\frac{1}{\text{Current}}$	3) (Current) ²	4) $\frac{1}{\text{(Current}^2)}$

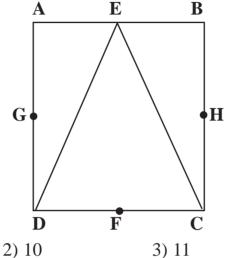
62.	An automatic toaster is a loop control system.			
	1) Open		2) Closed	
	3) Partially closed		4) None of the abo	ve
63.	A transistor draws a	base current of 100	micro ampere when	the collector current
	is 10 milli ampere,	what is value of its	'α'?	
	1) $\frac{101}{100}$	2) $\frac{100}{}$	3) $\frac{1000}{10001}$	4) $\frac{10}{11}$
64.	Who of the following	ng was not the actin		
	1. V.V.Giri	2) B.D.Jatti	3) Hidayatullah	4) Zakir Hussain
65.	The northern most l	limit of India is-		
	1) 36°4′ N latitude		2) 37°8' N latitude	
	3) 37°6′ N latitude		4) 36°12' N latitude	e
66.	When the load is economical.	above, a sy	ynchronous motor is	s found to be more
	1) 2 kW	2) 20 kW	3) 50 kW	4) 100 kW
67.	The first summit of	NAM was held at-		
	1) Cairo	2) Lusaka	3) Belgrade	4) New Delhi
68.	To convert moving	coil galvanometer i	into an ammeter, wh	ich of the following
	methods is used?			
	1) Small resistance	in series	2) Small resistance	in parallel
	3) High resistance i	n series	4) High resistance in parallel	
69.	Following figure sl	nows the curves of	efficiency versus co	ompression ratio for
		C. engines. For consta	ant volume cycle, the	curve applicable is-
	Efficiency D			
			1) A	2) B
	ifici	C	1) 11	2) D
	□ \D		3) C	4) D
	Compression	$\overline{\text{on ratio}} \rightarrow$		
70.	The minimum value	e of the function y =	$= x^5 - 4x^4 + 5x^3 - 1$	will occur when the
	value of x is equal t			
	1) 0	2) 1	3) 2	4) 3

71.	Which one of the natural regions is known as the 'Bread Basket' of the world?		
	1) The steppe region	2) The mediterranean region	
	3) The monsoon region	4) The equatorial region	
72.	When input signal in transistor amplifier	is applied between base and emitter and	
	out put is taken from emitter and collect	or, then what the configuration is called?	
	1) Common emitter	2) Common base	
	3) Common collector	4) None of these	
73.	Which of the following can be used to o	control the speed of a D.C. motor?	
	1) Thermistor 2) Thyristor	3) Thyratron 4) Transistor	
74.	The transient response of a system is m	nainly due to-	
	1) Inertia forces 2) Internal forces	3) Stored energy 4) Friction	
75.	Minority carrier in P-type semi-conduc	tor are-	
	1) Free electrons	2) Free holes	
	3) Holes and electrons both	4) Holes minus electrons	
76.	Pulley in a belt drive acts as-		
	1) Cylindrical pair	2) Turning pair	
	3) Rolling pair	4) Sliding pair	
77.	D.C. shunt relays are made of-		
	1) Few turns of thin wire	2) Few turns of thick wire	
	3) Many turns of thin wire	4) Many turns of thick wire	
78.	The movement that came to an abrupt en	end due to the Chauri-chaura incident was	
	the-		
	1) Wahabi Movement	2) Home rule movement	
	3) Non-cooperation movement	4) Civil disobedience movement	
79.	While checked with a multimeter, an op		
	1) Zero	2) Infinite	
00	3) High but within toleance	4) Low but not zero	
80.	In amplitude modulation-		
	1) Amplitude of the carrier is kept const	cant	
	2) Change occurs in carrier frequency	instantaneous vilue of an 1 1 at a	
		instantaneous value of modulating wave	
	4) None of these		

81.	Oscillator operates on sub-harmonic frequency because-				
	1) Lower frequency gives better stability				
	2) It gives linear out put				
	3) Less stages are used				
	4) More stages are used				
82.	Hopkinson's test on D.C. machines is conducted at-				
	1) No-load 2) part load	3) Full-load	4) Over load		
83.	Emitter follower is also called as-				
	1) Common emitter	2) Common base			
	3) Common collector	4) SCR			
84.	The example of lower pair is-				
	1) Shaft revolving in a bearing	2) Straight line mo	tion mechanisms		
	3) Automobile steering gear	4) All of the above			
85.	Which is true statement among the foll	owing?			
	1) Main function of the detector is to suppress the image signal				
	2) Noise is very low in crystal detector				
	3) Super-regenerative is less sensitive				
	4) Diode detector is more sensitive				
86.	. The first governor-General of India under East India Company was-				
	1) Cornwallis	2) Wellesley			
	3) Warren Hastings	4) Sir John Shore			
87.	The expression ∫ p dV can be used for o	obtaining work of-			
	1) Non-flow reversible process	2) Steady flow reve	ersible process		
	3) Adiabatic irreversible process	4) Throttling proce	SS		
88.	In connection with oscillator, which is	FALSE statement?			
	1) Oscillator converts d.c. into a.c.				
	2) Oscillator is that amplifier which pro	ovides its own input			
	3) All types of oscillator produce sine v	wave			
	4) In phase, feedback used in oscillator is also called positive feedback.				

89.	The index of compression n tends to reach ratio of specific heats γ when-				
	1) flow is uniform and steady				
	2) process is isentropic				
	3) process is isothermal				
	4) process is isentropic and specific hea	t does not change w	ith temperature		
90.	Who of the following attended all the th	rree Round Table Co	onferences?		
	1) B.R. Ambedkar	2) M.M.Malaviya			
	3) Vallabhbhai Patel	4) None of the above	ve		
91.	For which of the following substances,	the internal energy	and enthalpy are the		
	functions of temperature only-				
	1) Any gas	2) Saturated steam			
	3) Water	4) Perfect gas			
92.	Frequency multiplier stage of the transm	nitter operates under	_		
	1) Class C 2) Class A	3) Class AB	4) Class B		
93.	Which of the following is used in the blast furnace as flux?				
	1) Fluorspar	2) Quartzite			
	3) Limestone	4) Ferro-manganes	e		
94.	An air vessel is usually provided at the	summit of a syphon	in order to-		
	1) Regulate the flow	2) Increase discharge	ge		
	3) Avoid interruption in flow	4) Increase velocity	7		
95.	An exciter for a turbo generator is a-				
	1) Separately excited generator	2) Shunt generator			
	3) Series generator	4) Compound gene	rator		
96.	Which of the following instruments is n	nost accurate?			
	1) Vertical caliper	2) Manometric scre	ew gauge		
	3) Optical projector	4) Mechanical com	parator		
97.	The value of Lt $\underset{x \to \infty}{\text{sin } x}$ is equal to-				
	1) 1 2) -1	3) Zero	4) Infinity		

98. In the given figure we see a square ABCD and a triangle EDC within it. E, F, G and H are the midpoints of the four sides of the square AB, DC, AD and BC respectively. If these midpoints are joined together with straight lines e.g., E with F and G with H, then how many triangles will the figure have?



1) 9

9 2)

4) 12

- **99.** Two generators A and B have 6-poles each. Generator A has wave wound armature while generator B has lap wound armature. The ratio of the induced e.m.f. in generator A and B will be
 - 1) 2:3
- 2) 3 : 1
- 3)3:2
- 4) 1:3
- 100. A frame-structure is nice if the number of its constituents is equal to
 - 1) 2n-3
- 2) n-1
- 3) 2n-1
- 4) n-2

ANSWERS

1-3; 2-2; 3-3; 4-2; 5-1; 6-4; 7-4; 8-4; 9-2; 10-1; 11-2; 12-4; 13-1; 14-3; 15-1; 16-1; 17-1; 18-2; 19-3; 20-1; 21-1; 22-3; 23-2; 24-3; 25-2; 26-2; 27-2; 28-3; 29-2; 30-4; 31-2; 32-2; 33-3; 34-4; 35-4; 36-4; 37-3; 38-3; 39-2; 40-2; 41-4; 42-3; 43-1; 44-3; 45-2; 46-1; 47-2; 48-4; 49-1; 50-4; 51-3; 52-3; 53-1; 54-3; 55-2; 56-1; 57-2; 58-4; 59-2; 60-3; 61-3; 62-1; 63-2; 64-4; 65-3; 66-3; 67-3; 68-2; 69-2; 70-1; 71-1; 72-1; 73-2; 74-2; 75-2; 76-1; 77-2; 78-3; 79-2; 80-3; 81-2; 82-3; 83-3; 84-2; 85-4; 86-3; 87-1; 88-3; 89-2; 90-1; 91-4; 92-1; 93-1; 94-1; 95-1; 96-3; 97-3; 98-2; 99-2; 100-1.