

श्री चित्रा तिरुवाल आयुर्विज्ञान और पौद्योगिकीसंस्थान, तिरुवनंतपुरम्-११ SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES & TECHNOLOGY THIRUVANANTHAPURAM-695 011

ENTRANCE EXAMINATION - ACADEMIC SESSION JANUARY 2018

PROGRAMME: PG DIPLOMA IN NEURO TECHNOLOGY

Time:90 Minutes			Max.Marks:	100
	(Select the mo:	st appropriate answer)		
	(There are <mark>no negativ</mark>	e marks for wrong ar	swers)	

1. The brain uses what p	percentage of the boo	dy's energy?		
a) 20 per cent	b) 10 per cent	c) 2 per	cent d) 50 per cent	
, .		, ,	, ·	
2. Which area of the br	ain is not part of the	e cerebral cortex?		
a) Cerebellum	b) Frontal lobe	c) Parietal lobe	d) Temporal lob	e)e
3 (T) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		2.77	P4 1 650 X4	
3. The brain wave with fre		-	litude of 50 μV are called) theta waves	
a) spike and waves	due to Epilepsy b)	delta waves) theta waves U) aipha w	aves
4. The number 3.2×10^{-5} A	expressed using a me	tric prefix is		
a) 320 mA	b) 3.3 μA	c) 3,200 mA	d) 32 μA	
,	•	, .	,	
· ·			e percentage in its time period?	
a) 10%	b) 20%	c) 40%	d) 44%	
6. The unit of electric pote	ntial is			
a) Coloumb	b) Volt	c) Ampe	re d) Farad	
a) Coloumb	b) voic	c) impe	4) 1 4144	
7. An oscillator is an ampli	ifier with			
a) negative feedbac		positive feedback		
c) no feedback	d)	variable negative feed	lback	
8. An ideal current source	io ono whose internal	rosistanco is		
- a) very high	b) very low	c) zero	d) infinite	
- a) very mgn	D) VELY IOW	C) Zei 0	u) minne	
9. Electromagnets are mad	le of soft iron because	soft iron has		
	ty and low retentivity			
	y and high retentivity			
	y and low retentivity			
d) high susceptibili	ty and high retentivity	7		
40 Y 41 1 111	4 : . C			
10. In cathode ray oscilloso			d) matrix	
a) anode	b) cathode	c) grid	u) matrix	
11. A man is watching two	trains one leaving and	l the other coming in v	vith equal speeds of ms ⁻¹ . If they	y sounc
their whistles, each of	natural frequency of 2	50 Hz, the number of	beats heard by the man will be	•
(velocity of sound in ai		·	-	
a) 6	b) 3	c) 0	d) 12	
	, 645 4 10			
			aving angle 40° will produce force	:e of
a) 0.21 N	b) 0.25 N	c) 0.31 N	d) 0.39 N	

13. Among the following im	aging systems, which	h has more noninvesive	aharaatay?		
13. Among the following imaging systems, which has a) Ultrasonic imaging system		h) CT imaging sv	b) CT imaging system		
c) Nuclear imaging	Nuclear imaging system d) PET system		Stein		
5 5	•	-,			
14. Hygrometer is used for	measuring				
a) amount of O2 in a	ir	b) temperature of	fair		
c) pressure variation	ı of air	d) humidity of air			
15. Device used to measure	notential diffarence l	hatwaan two naints in	alta ia lunovum an		
a) ohmmeter	b) odometer	c) ammeter	d) voltmeter		
16. The use of notch filter in	signal conditioning	system is			
a) to filter RF noise		b) to filter 50Hz noise from mains			
c) to filter the signal	from HF noises	d) to attenuate the	e evoked response potentials.		
17. EMG deals with the stud	y of				
a) Brain activity	•	b) myocardial acti	ivitv		
c) muscular activity		d) central nervous			
19 What is the sange of more	 	•			
18. What is the range of mer					
a) 0 degree Celsius to					
b) -10 degree Celsius					
c) -20 degree Celsius					
d) -30 degree Celsius	to 350 degree Ceisiu	IS			
19. The ground faults can be	avoided by				
a) using 3 pin plug sy		b) using fuses in th	ie circuits		
c) using isolated pow	er supply	d) using pure DC alone			
20. The average value of syst	olic and diastolic pre	esure of normal adult a	NMO.		
a) 80 to 120 mm Hg	one and diastone pre	b) 120 to 80 mm H			
c) 70 to 140 mm Hg		d) 140 to 60 mm H			
5) / 0 to 1 to min 11g		a) 140 to 00 mm 11	g		
21. Unit of pressure is					
a) N/m ²	b) N/m	c) Nm	d) Newton		
22. Which instrument is used	to measure pressure	e of gases?	•		
a) Manometer		b) Machmeter			
c) Magnetometer		d) Micrometer			
22 4 4 4 4		i			
23. A car is moving with a spe	ed of 72-km/hr, how				
a) 1080	b) 16000	c) 18000	d) 12000		
24. Find the number if its 25.5	5 % is153	,			
a) 600	b) 501	c) 595	d) 613		
	•	,) VV		
25. Spinal code has a length of					
a) 42¢m	b) 45cm	c) 48cm	d) 50 cm		
26. Which one of the following	z diseases is not tran:	smitted by tiger masqui	itos		
a) dengue	,	b) chickungunya			
c) japanese encephalit	is	d) yellow fever			
47 When a should be a		•			
27. When a charged particle n	noves at right angle t				
a) momentum	b) speed	c) energy	d) moment of inertia		
28. Principle of transformer					
a) mutual induction		b) self induction			
c) eddy current	· ·		d) joule's law		
•		, y			

a) pellagra	b) marasmus	ı in children is called c) beri-beri	d) rickets
30. Which one of these th a) Constant-volum b) resistance ther c) Thermocouple d) Mercury-in-gla	ne gas thermometer mometer	ble as well as simple to use	?
31. The maximum efficiency a) 40.6 %	ncy of a half-wave re b) 81.2 %	ctifier is c) 50 %	d) 25 %
32. Movement of toung m	nuscle is controlled by	y	
a) facial nerve c) hypoglossal ne	•	b) trigemin al nerve d) vagus nerve	
33. Temperature sensing a) thermocouples		he use of s c) thermise	tors d) all the above
34. Part of brain which c	ontrols voluntary act	ion	
a) cerebrum c) medula oblong		b) cerebellum d) hypothalamus	
b) amount of cha c) min and max to d) None of above 36. The gas used in a refu a) cooled down of b) heated up on f c) cooled down w	nermometer can regis nge in thermometric emperatures that the rigerator is n flowing lowing then compressed	ter change in temperature property for a unit change rmometer can measure	e in temperature
d) cooled down w37. Which one among the a) A		s necessary for blood clott	ing? d) C
41) 11	meter, it is assumed t	that length of liquid 'l' and	temperature 'θ' are
38. In a mercury thermo a) directly propo b) inversely prop c) weakly depend d) independent o	rtional to each other ortional to each othe lent on each other f each other	r es to the heart has higher o	concentration of
38. In a mercury thermo a) directly propo b) inversely prop c) weakly depend d) independent o	rtional to each other ortional to each othe lent on each other f each other	r es to the heart has higher o	concentration of d) urea
38. In a mercury thermo a) directly propo b) inversely prop c) weakly depend d) independent of	rtional to each other ortional to each othe lent on each other f each other res the liver and move b) bile pigmen	r es to the heart has higher o	concentration of d) urea d) Bob
38. In a mercury thermo a) directly propo b) inversely prop c) weakly depend d) independent of 39. The blood which leav a) glucose 40. In pendulum, heavy	rtional to each other cortional to each other lent on each other f each other ves the liver and move b) bile pigmen metal ball is called b) Gong	r es to the heart has higher o ts c) bile	u) urea
38. In a mercury thermo a) directly propo b) inversely propo c) weakly depend d) independent o 39. The blood which leav a) glucose 40. In pendulum, heavy i a) String	rtional to each other cortional to each other lent on each other f each other res the liver and move b) bile pigmen metal ball is called b) Gong of human is b) 12-50	r es to the heart has higher o ts c) bile c) Hook	d) Bob
38. In a mercury thermo a) directly propo b) inversely propo c) weakly depend d) independent of 39. The blood which leav a) glucose 40. In pendulum, heavy in a) String 41. Normal breadth rate a) 10-16	rtional to each other ortional to each other lent on each other f each other res the liver and move b) bile pigmen metal ball is called b) Gong of human is b) 12-50	es to the heart has higher of ts c) bile c) Hook c) 12-20	d) Bob d) 60-100

45. The temperature of a both thermometer, it is found	ody on Celsius scale is f I to be x F. Then x is	found to be x'c, when	it is measured by Fahrenheit	
a) 301.25	b) 574.25	c) -313	d) -40	
46. In physics, a common ins a) Rule	strument to measure di b) Measuring tape	ameter of a circle is ki c) Calipers	nown as d) Inch tape	
 47. Scalar Quantities are a) physical quantities w b) physical quantities w c) physical quantities w d) physical quantities w 	vhich have no magnitud vhich have magnitude o vhich have no magnitud	le only and only direct only and direction le and no direction		
48. If α , β are the roots of x^2	+ax +b=0, then the ro	ots of x^2 -ax +b =0 are	n 0	
a) α , $-\beta$	b) -α, β	c) -α, -β	d) α, β	
49. SI unit for length is a) centimeter	b) inches	c) meter	d) yards	
50. The sum of the first thre Then, the sum of squ		and their product is –		
a) 25	b) 36	c) 37/2	d) 30	
51. Bonding in diamond is a) Covalent	b) Coordinate Coval	ent c) Ionic	d) Vander Waal's forces	
52. The mathematical statem a) $\Delta E = Q - W$	nent of the first law of t b) $\Delta E = Q + W$	hermodynamics is c) $\Delta E = W - Q$	d) $\Delta E = -Q - W$	
53. In CE configuration of a a) AC bypassing	mplifier, the resistor in b) Stabilization	emitter terminal is fo c) higher gain	r d) collector biasing	
54. Which of the following to uses quantum physics?	erms refers to the molec			
a) Quantum mechanics c) Molecular mechanics		b) Molecular calculations d) Quantum theory		
55. Perimeter of a square is a) 10 cm ²	40 cm. find the area? b) 400 cm ²	c) 100 cm ²	d) 160 cm ²	
56. A can do a piece of work a) 5/12	in 6 days and B can do b) 2.2/5	in 4 days. How long w c) 1.1/2	vill they take if both work togethe d) none of these	
57. The bleaching action of o				
a) moisture c) pure oxygen		nlight re sulphur dioixide		
58. Sound is produced due to a) friction	b) circulation	c) vibration	d) refraction	
59. A patient's temperature The temperature rec	changed daily between orded on the Celsius sc	96.8 F and 105.8 F du ale	ring a course of illness.	
a) 36, 41	b) 46, 51	c) 26, 41	d) 16, 41	
60. In a periodic table from a) decreases	left to right, the atomic b) increases	size c) remains same	d) none of these	
61. The first term of a G.P v	whose second term is 2 a	and the sum to infinity	is 8 is d) 4	

62. Which law is also called	law of inertia				
a) Newton first law		b) Newton second la	aw		
c) Newton third law		d) All of above	d) All of above		
63. Microorganisms that ca	n only live and s	grow in the presence of oxyge	n are called:		
a) Anaerobe	b) Pathogen	c) Aerobe	d) Mold		
64. Sound waves can pass the	hrough				
a) vacuum	-	b) air only			
c) air and other states of matter		d) vacuum and othe	er states of mat	ter	
65. Which of the following i	is an electromag	netic wave?		•	
a) Cathode rays	b) Sound way		d) Infra re	d rays	
66. Two inputs A and B of N	IAND gate have				
a) A is 0	b) B is 0	c) both are zero	d) both are	: 1	
67. Pick out the only scalar	quantity from th	ne following physical quantity			
a) velocity	b) torque	c) area	d) electric	current	
69 What force acting on 9 I	ngss of 15kg for	one minute can change its vel	locity from 10n	n/s to 50m/s?	
a) 5N	b) 10N	c) 15N	d) 20N		
	CC Constant	. J			
69. List the different types of	i Suriace electro	b) Suction cup elect	tradec		
a) Metal Plate electr			troues		
c) Adhesive tape ele	ectrodes	d) all the above			
70. Ohms Law states that at a) V/I = R	constant tempe b) V*	erature FI=R c) I/	V = R	d) $I*R = V$	
71. Diode characteristic curve is	a plot between				
a) current and time	•	b) voltage and time			
c) voltage and current		d) both a and b			
72. Heparin is:					
a) Protein		b) Enzyme			
c) Polysaccharide		d) Oligosaccharide		•	
73 A car traveling at a snee	d of 54km/h is b	prought to rest in 90 seconds.	Find the retard	lation.	
a) -1/5m/s ²	b) -1/6m/s ²	c) 1/5m/s ²	d) 1/6m/s ²		
,	1	-florath 600m with a uniform	n sneed of 36kr	n/hr.	
74. A train of length 200m c	rosses a bridge	of length 600m with a uniforn	n speed of box		
a) 50 sec	b) 60sec	c) 70 sec	d) 80 sec		
		reminal annears at output ter	minal with a nh	195e	
	d at inverting to b) 90	erminal appears at output teri c) 1 80	d) 45	-	
a) 0	ŕ	•	,		
76. The mean of the squares	s of the first n ng	atural numbers is	J.V.	n (n ± 1) (2= ±1)	
a) $\frac{(n+1)(n-1)}{2}$	b) n ²	(n+1)(2n+1)	a)	n <u>(n + 1) (2n +1)</u> 6	
77. Blood is brought back to	the heart from	the body by			
a) Cells	b) Veins	c) Arteries	d) Nerves		
78. Input resistance of op-ar	mn is				
a) very high	b) very low	c) zero	d) one		
, ,	in a plane abov	it a fixed naint its angular ma	mentum is dire	ected along	
79. When a mass is rotating a) radius	in a piane abou	t a fixed point its angular mo b) the tangent o the	e orbit		
a) radius		d) line at an angle	45 to the pane	of rotation	

80. At absolute zero the res	sistance of a condu b) 100	uctor is c) 230	d) 273	
81. When 33 is subtracted (a) 99	from a number it b) 88	reduces to its 5/8th. What c) 66	is the number? d) 128	
82. The frequency of a sinu a) 1000πHz	soidal wave y= 0. b) 2000Hz	40 cos (2000t + 0.80) is c) 20Hz	d) (1000/π)Hz	
83. Regarding the electroen a) θ,δ β, α	cephalogram (EF b) β,δ,α,θ	EG), order of brain waves v c) δ,β, α,θ	with respect to increase of frequency d) β , α , θ ,δ	у.
84. The voltage between lin a) 230 V dc	e and neutral in I b) 230Vac	ndian standard electricity. c) 400Vdc	d) 400Vac	
85. Density of water is max a) 0°C	imum at b) 4 ⁰ C	c) 4 ⁶ K	d) none of the above	
86. Melting point of ice a) 100°C	b) 100 ⁰ F	e) 0°C	d) 0°F	
87. Video transmission for 7	ΓV broadcasting i b) PM	is usually on c) FM	d) None of these	
88. The transistor configura a) Common base c) Common collecto	-	the highest input impedance b) Common emitted) none of these		
89. Darlington pair is used to a) High input impedent c) Low input impedent	lance	b) High output im d) Overload prote		
90. How many pairs of cran a) 10	ial nerves in hum b) 14	an being c) 12	d) 8	
91. Who discovered X-rays a) Becquerel	b) Curie	c) Rontgen	d) Michelson	
92. Which part of the brain a) brain steam	regulates heartbe b) cerebrum	eat, breathing and other vit c) cerebellum	al functions? d) pituitary gland	
93. A carpet of 26 meters X per square meter?	19 meters was bo	ught at the cost of Rs. 6866	66/ What is the cost	
a) Rs.139/-	b) Rs. 2641/-	c) Rs. 1525/-	d) Rs.145/-	
94. Type of brain surgery th site is called?	at uses system of		ates to locate the operative	
a) Densitometryc) microsurgery		b) sterotatic surgery d) laproscopic surgery		
-	e larger than the	digit at the tenth place. Wh	nat is the number?	
a) 92	b) 29 ··-	c) 38	d) 74	
96. The first computer langu a) Basic	age is b) Fortran	c) Pascal	d) Cobol	
97. A and B are parent of C, a) Daughter	But C is not the s b) Father	on of A. What is C to A?	d) Aunt	

- 98. Which statement is true regarding radiation hazard?
 - a) Radiation guidelines are set by food and drug act
 - b) Radiation is not transferred into the body
 - c) Radiation does not affect a fetus
 - d) Radiation accidents may be difficult to recognize
- 99. A stick partially immersed in water looks bend, it is a phenomenon of

a) Reflection

b) Parallax view

c) Radiation

d) Refraction

100. The first electronic computer to become widely known as

a) UNIVAC

b) APPLE

d) ENIAC

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