Entrance Examination 2020- PG_ Diploma in Cardiac Laboratory Technology

Sl No	Question	Answer	OptionA	OptionB	OptionC	OptionD
1	THE STRENGTH OF A SEMICONDUCTOR CRYSTAL COMES FROM……	C	FORCES BETWEEN NUCLEI	FORCES BETWEEN PROTONS	ELECTRON-PAIR BONDS	NONE OF THE ABOVE
2	AT A DISTANCE R,TWO EQUAL CHARGES ARE KEPT AND THEY EXERT A FORCE F ON EACH OTHER.WHAT IS THE FORCE ACTING ON EACH CHARGE,IF THE DISTANCE BETWEEN THEM IS DOUBLED AND CHARGES ARE HALVED?	A	F/16	4F	F/4	F/8
3	1 VOLT IS EQUIVALENT TO	A	JOULE/ COULOMB	NEWTON/ COULOMB	NEWTON/ SECOND	JOULE/ SECOND
4	IN PARALLEL COMBINATION OF N CELLS, WE OBTAIN	B	MORE VOLTAGE	MORE CURRENT	LESS VOLTAGE	LESS CURRENT
5	TESLA IS A UNIT OF	C	ELECTRIC FLUX	MAGNETIC FLUX	MAGNETIC FIELD	ELECTRIC FIELD
6	THE EARTH BEHAVES AS A MAGNET WITH MAGNETIC FIELD POINTING APPROXIMATELY FROM THE GEOGRAPHIC	B	NORTH TO SOUTH	SOUTH TO NORTH	EAST TO WEST	WEST TO EAST
7	LENZ LAW IS BASED ON WHICH OF THE FOLLOWING CONVERSATION	D	CHARGE	MASS	MOMENTUM	ENERGY
8	WHAT IS THE PEAK VALUE OF THE VOLTAGE OF AN ELECTRIC LAMP CONNECTED TO A 220 V,50 HZ SUPPLY?	A	311 V	320 V	211 V	210 V
9	ELECTRO MAGNETIC WAVES ARE PRODUCED BY	B	A STATIC CHARGE	AN ACCELERATED CHARGE	A MOVING CHARGE	CHARGED PARTICLES
10	AN N-TYPE SEMICONDUCTOR IS ….	C	POSITIVELY CHARGED	NEGATIVELY CHARGED	ELECTRICALLY NEUTRAL	NONE OF THE ABOVE
11	LIGHT YEAR IS THE UNIT OF :	A	DISTANCE	TIME	INTENSITY OF LIGHT	NONE OF THE ABOVE
12	POLARISATION PHENOMENON EXPLAINS WHICH NATURE OF LIGHT?	A	TRANSVERSE	LONGITUDINAL	BOTH TRANSVERSE AND LONGITUDINAL	GEOMETRICAL
13	DE-BROGLIE EQUATION STATES THE:	A	DUAL NATURE	PARTICLE NATURE	WAVE NATURE	NONE OF THESE
14	WHICH OF THE FOLLOWING IS THE EQUIVALENT QUANTITY OF MASS IN ELECTRICITY	D	CURRENT	CHARGE	POTENTIAL	INDUCTANCE
15	MAXIMUM NUMBER OF ELECTRONS IN A SUB SHELL CAN BE	A	$4l + 2$	$4l-2$	$2n^2$	$2l + 1$
16	IN NUCLEAR REACTORS,THE CONTROL RODS ARE MADE OF	A	CADMIUM	GRAPHITE	KRYPTON	PLUTONIUM
17	THE CHEMICAL FORMULA OF LEAD SULPHATE IS	C	Pb_2SO_4	$Pb(SO)_2$	$PbSO_4$	$Pb_2(SO_4)_3$
18	A CYCLOTRON CAN BE USED TO PRODUCE HIGH ENERGY	D	NEUTRONS	ELECTRONS	β PARTICLES	α PARTICLES
19	BELONG IF THE ENERHY OF THE WAVE IS OF THE ORDER OF 15 KeV	A	X- RAYS	INFRARED RAYS	ULTRAVIOLET RAYS	GAMMA RAYS
20	THE AIR BUBBLE INSIDE WATER SHINE DUE TO	C	REFLECTION	REFRACTION	T.I.R	NONE OF THE ABOVE
21	THE BINARY EQUIVALENT OF THE DECIMAL NUMBER 10 IS	C	10	10	1010	10
22	THE LOCATION OF THE NEURO CENTRE ACITIVITY OF THE HEART	D	MID BRAIN	PONS	CEREBRUM	MEDULLA OBLONGATA
23	WHICH MODE IS USED FOR CARDIAC IMAGING?	C	A-MODE	B-MODE	M-MODE	3 D MODE
24	FERRITES MAY BE	B	ANTI FERROMAGNETIC	FERROMAGNETIC	FERRI MAGNETIC	NONE OF THE ABOVE
25	WHICH INSTRUMENT IS USED TO EXAMINE THE ECG POTENTIALS GENERATED ALONG THE THREE DIMENSIONAL	A	VECTOR CARDIOGRAPH	ECHOCARDIOGRAPH	M-MODE ULTRASONOGRAPHY	ELECTROCARDIOGRAPH
26	WHICH OF THE FOLLOWING VITAMIN HELPS IN BLOOD CLOTTING?	C	VITAMIN A	VITAMIN C	VITAMIN K	VITAMIN D
27	THE REFRACTIVE INDEX OF WATER WILL BE	D	1	2.66	5	1.33
28	IN ZENER DIODE, THE ZENER BREAKDOWN TAKES PLACE	B	ABOVE 6 V	BELOW 6 V	AT 6 V	ZERO
29	ELECTRIC FIELD LINES PROVIDE INFORMATION ABOUT	D	FIELD STRENGTH	DIRECTION	NATURE OF CHARGE	ALL OF THESE
30	WHAT IS THE UNIT OF INDUCTANCE?	D	VOLIT/AMPERE	VOLT-AMPERE/SEC	JOULE/AMPERE	VOLT-SEC/AMPERE
31	THE ULTRA HIGH FREQUENCY BAND OF RADIO WAVES IN ELECTROMAGNETIC WAVE IS USED AS IN	B	TELEVISION WAVES	CELLULAR PHONE COMMUNICATION	COMMERCIAL FM RADIO	BOTH A AND C
32	MILLIKAN'S OIL DROP EXPERIMENT MAKES USE OF:	A	STOKES'S LAW	BOYLES'S LAW	GAS EQUATION	BERNOULLI'S THEOREM
33	WHICH OF THE FOLLOWING VITAMIN DEFICIENCY CAUSES BERIBERI?	A	VITAMIN B1	VITAMIN B2	VITAMIN B6	VITAMIN B12

#	Question	Ans	A	B	C	D
34	WHICH REGION OF THE TRANSISTOR IS HIGHLY DOPED?	A	EMITTER	BASE	COLLECTOR	BOTH EMITTER AND COLLECTOR
35	DIELECTRIC CONSTANT FOR A METAL IS	B	ZERO	INFINITE	1	10
36	RADIOACTIVITY IS THE PHENOMENON ASSOCIATED WITH	A	DECAY OF NUCLEUS	PRODUCTION OF RADIO WAVES	TRANSMISSION OF RADIO WAVES	RECEPTION OF RADIO WAVES
37	WHEN A PENTAVALENT IMPURITY IS ADDED TO A PURE SEMI CONDUCTOR,IT BECOMES---	D	AN INSULATOR	AN INTRINSIC SEMICONDUCTOR	P-TYPE SEMICONDUCTOR	N-TYPE SEMICONDUCTOR
38	THE COMMON -MODE GAIN OF AN OPAMP IS ---	B	VERY HIGH	VERY LOW	ALWAYS UNITY	UNPREDICTABLE
39	WHAT IS THE SI UNIT OF PERMITIVITY OF FREE SPACE?	C	WEBER	FARAD	$C^2N^{-1}M^{-2}$	$C^2N^{-1}M^2$
40	A DOPPED SEMICONDUCTOR IS KNOWN AS	B	INTRINIC SEMICONDUCTOR	EXTRINSIC SEMICONDUCTOR	DIFFUSED SEMICONDUCTOR	NONE OF THE ABOVE
41	WHICH OF THE FOLLOWING RAYS ARE NOT ELECTROMAGNETIC WAVES?	B	GAMMA RAYS	BETA RAYS	HEAT RAYS	X RAYS
42	ATOMS THAT HAVE THE SAME MASS NUMBER AND DIFFERENT ATOMIC NUMBER ARE CALLED?	A	ISOTOPES	ISOTONES	ISOBARS	ISOMERS
43	RMS STANDS FOR	A	ROOT MEAN SQUARE	ROOT MEAN SUM	ROOT MAXIMUM SUM	ROOT MINIMUM SUM
44	AN EXAMPLE OF NON-OHMIC RESISTANCE	A	DIODE	TUNGSTEN WIRE	CARBON RESISTANCE	COPPER WIRE
45	THE TERM USED TO "COLLECT THE INFORMATION ABOUT AN OBJECT AND A PLACE WITHOUT PHYSICAL CONTACT"	D	MODULATION	COMMUNICATION	AMPLIFICATION	REMOTE SENSING
46	KIRCHHOFFS FIRST AND SECOND LAWS FOR ELECTRICAL CIRCUITS ARE CONSEQUENCES OF:	B	CONSEVATION OF ENERGY	CONSERVATION OF ELECTRICAL CHARGE AND ENERGY RESPECTIVELY	CONSERVATION OF ELECTRIC CHARGE	NEITHER CONSERVATION OF ENERGY NOR ELECTRIC CHARGE
47	CAPACITOR IS A DEVICE USED TO---	A	STORE ELECTRICAL ENERGY	VARY THE RESISTANCE	STORE MAGNETIC ENERGY	DISSIPATE ENERGY
48	THE MOST ABUNDANT METAL IN THE EARTH'S CRUST IS	B	IRON	ALUMINIUM	CALCIUM	SODIUM
49	THE WAVE LENGTH OF A WAVE OF FREQUENCY 10KHZ IS:	C	30 M	300M	30KM	300KM
50	WHICH OF THE FOLLOWING IS NOT TRANSDUCER?	B	LOUDSPEAKER	AMPLIFIER	MICROPHONE	ALL OF THESE
51	THE SPACE WAVES WHICH ARE AFFECTED SERIOUSLY BY ATMOSPHERREIC CONDITIONS ARE:	D	MF	HUF	VHF	UHF
52	WHAT IS THE PRINCIPLE BEHIND THERMOCOUPLE	C	JOULE EFFECT	THOMSON EFFECT	SEEBECK EFFECT	PELTIER EFFECT
53	THE UNIT OF FREQUENCY IS	D	CYCLE	CYCLE-SECOND	HERTZ/SECOND	HERTZ
54	THE WAVES USED BY ARTIFICIAL SATELLITES FOR COMMUNICATION IS	A	MICROWAVES	INFRARED WAVES	RADIO WAVES	X- RAYS
55	IN P-N-P TRANSISTOR,BASE WILL BE OF	B	P MATERIAL	N MATERIAL	P AND N MATERIAL	NONE OF THE ABOVE
56	CONVERT 1101.0001_2 TO DECIMAL	D	13	13.5	13.15	13.0625
57	CONVERT $FACE_{16}$ TO DECIMAL	A	6862_{10}	6552_{10}	6111_{10}	6000_{10}
58	THE MAJORITY CARRIERS IN THE BASE OF AN NPN GERMANIUM TRANSISTOR ARE	B	IMPURITY IONS	HOLES	ELECTRONS	ELECTRON-HOLES PAIR
59	THE FORCE PER UNIT CHARGE IS KNOWN AS	B	ELECTRIC FLUX	ELECTRIC FIELD	ELECTRIC POTENTIAL	ELECTRIC CURRENT
60	THE FOCAL LENGTH OF THE LENS IS 50 CM; THEN ITS POWER IS:	A	+2D	+1D	-2D	-1D
61	THE ISOTOPES USED TO REMOVE THE BRAIN TUMORS AND TREATMENT OF CANCER IS	D	U-235	Na-24	IODINE	CO-60
62	AN ELECTRIC CURRENT OF 10 A IS THE SAME AS	C	10 J/C	10V/C	10 C/SEC	10 W/SEC
63	WHICH QUANTITY IS INCREASED IN A STEP-DOWN TRANSFORMER?	A	CURRENT	VOLTAGE	POWER	FREQUENCY
64	GAUSS'S LAW WILL BE INVALID IF	B	THERE IS MAGNETIC MONOPOLE	THE INVERESE SQUARE LAW IS NOT EXACTLY TRUE	THE VELOCITY OF LIGHT IS NOT A UNIVERSAL CONSTANT	NONE OF THESE
65	WHICH OF THE FOLLOWING IS THE BEST INSULATOR?	D	CARBON	PAPER	GRAPHITE	EBONITE
66	WHAT IS THE VALUE OF CAPACITANCE OF A CAPACITOR WHICH HAS A VOLTAGE OF 4 V AND HAS 16 C OF CHARGE?	B	2F	4F	6F	8F
67	IN A SINUSOIDAL WAVE, AVERAGE CURRENT IS ALWAYS --- RMS CURRENT	B	GREATER THAN	LESS THAN	EQUAL TO	NOT RELATED
68	A DIFFERENTIAL AMPLIFIER----	D	IS A PART OF AN OP-AMP	HAS ONE INPUT AND ONE OUT PUT	HAS TWO OUTPUTS	BOTH 1 AND 2
69	CHOOSE THE VECTOR PHYSICAL QUANTITY	D	ELECTRIC FLUX	ELECTRIC POTENTIAL	ELECTRIC POTENTIAL ENERGY	ELECTRIC INTENSITY
70	WHICH OF THE FOLLOWING ACTS AS A BUFFER	A	CC AMPLIFIER	CE AMLIFIER	CB AMPLIFIER	CASCADED AMPLIFIER
71	A SINGLE PHASE FULL WAVE RECTIFIER IS A	C	SINGLE PULSE RECTIFIER	MULTIPLE PULSE RECTIFIER	TWO PULSE RECTIFIER	THREE PULSE RECTIFIER
72	WHAT IS AURICLE ALSO KNOWN AS?	B	EARDRUM	PINNA	AUDITORY TUBE	ROUND WINDOW

#	Question	Ans	A	B	C	D
73	HOW MANY ELECTRODES ARE USED IN 10-20 ELECTRODE PLACEMENT SYSTEM IN EEG MACHINE?	A	21	30	20	10
74	THE ELECTRONIC CONFIGURATION OF CHLORINE IS	C	2,7	2,8,8,7	2,8,7	2,7,8
75	MAXWELL IN HIS FAMOUS EQUATIONS OF ELECTROMAGNETISM INTRODUCED THE CONCEPT OF	B	AC CURRENT	DISPLACEMENT CURRENT	IMPEDANCE	REACTANCE
76	REPRESENT THE COLOUR CODE FOR THE FOLLOWING VALUES OF RESISTANCE 47 ± 5%	D	YELLOW, WHITE,BLUE,RED	YELLOW, BLACK, GREEN,GOLD	YELLOW,VIOLET, BLACK,SILVER	YELLOW,VIOLET, BLACK AND GOLD
77	BRIDGE RECTIFIER IS AN ALTERNATIVE FOR	A	FULL WAVE RECTIFIER	PEAK RECTIFIER	HALF WAVE RECTIFIER	NONE OF THE ABOVE
78	WHICH OF THE FOLLOWING TERMINALS DOES NOT BELONG TO THE MOSFET?	B	DRAIN	GATE	BASE	SOURCE
79	WHICH SURFACE IS CONSIDERED FOR GAUSS LAW?	B	SPHERICAL SURFACE	GAUSSIAN SURFACE	CLOSED SURFACE	PLANE SURFACE
80	THE ELECTROMAGNETIC WAVE USED TO TREAT MUSCULAR PAIN IS:	D	VHF RADIOWAVES	X-RAYS	ULTRAVIOLET RAYS	INFRARED RADIATIONS
81	A PENTAVALENT IMPURITY HAS ---- VALENCE ELECTRONS	B	3	5	4	6
82	PACEMAKER IS -----	B	AV NODE	SA NODE	BUNDLE OF HIS	VENTRICLE MUSCLES
83	IF BOTH THE K AND L SHELLS,WHAT WOULD BE THE ATOMIC NUMBER OF THAT ELEMENT?	C	20	14	10	16
84	TWO CONDUCTING SPHERES OF RADII r_1 AND r_2 ARE EQUALLY CHARGED.THE RATIO OF THEIR POTENTIAL IS	B	$(r_1/r_2)^2$	$(r_1 r_2)^2$	(r_1/r_2)	(r_1/r_2)
85	WHEN A RAY OF LIGHT (WHITE) ENTERS A LENS, UNDERGOES A CHANGE IS:	D	WAVE LENGTH	VELOCITY	FREQUENCY	BOTH VELOCITY AND WAVE LENGTH
86	IN A PNP TRANSISTOR, THE CURRENT CARRIERS ARE-----	D	ACCEPTOR IONS	DONOR IONS	FREE ELECTRONS	HOLES
87	P WAVE OF AN ECG SIGNAL IS RELATED TO:	B	VENTRICULAR DEPLORIZATION	ARTIAL DEPOLARIZATION	VENTRICULAR REPOLARIZATION	ATRIAL REPOLARIZATION
88	THE STRING OF 8 BITS IS KNOWS	B	NIBBLE	BYTE	OCTED	QUAD
89	WHICH OF THE FOLLOWING REGIONS DOES X-RAY LIE BETWEEN?	D	VISIBLE AND ULTRAVIOLET REGIONS	SHORT RADIO WAVES AND LONG RADIO WAVES	SHORT RADIO WAVES AND VISIBLE REGION	GAMMA RAYS AND ULTRA VIOLET REGION
90	AN ATOM HAS MASS NUMBER 37 AND ATOMIC NUMBER 17. FIND THE NUMBER OF PROTONS.	C	21	22	17	20
91	THE RATIO OF SPECIFIC CHARGE OF AN ALPHA PARTICLE TO THE PROTON	A	1:2	2:1	4:1	1:4
92	WHICH OF THE FOLLOWING PHENOMENON IS NOT EXPLAINED BY HUYGEN'S WAVE THEORY?	D	DIFFRACTION	INTERFERANCE	POLARISATION	PHOTOELECTRIC EFFECT
93	IN ELECTROMAGNETIC WAVES THE PHASE DIFFERENCE BETWWEN ELECTRIC FIELD VECTOR AND MAGNETIC FIELD VECTOR IS	A	ZERO	$\prod/2$	$\prod$	$\prod/3$
94	SIEMEN IS THE UNIT OF	B	RESISTANCE	CONDUCTANCE	SPECIFIC CONDUCTANCE	NONE OF THE ABOVE
95	THE REFRACTIVE INDICES(R.I) OF GLASS AND WATER WITH RESPECT TO AIR ARE 3/2 AND 4/2 RESPECTIVELY.THE R.I OF GLASS W.R.TO WATER IS :	B	8/9	9/8	7/6	2
96	TRANSFORMER WORKS ON THE PRINCIPLE OF:	C	CONVERTOR	INVERTOR	MUTAL INDUCTION	SELF-INDUCTION
97	WHAT IS THE VALUE OF ANGLE OF DIP AT THE MAGNETIC EQUATOR?	A	O°	90°	45°	NEARLY 30°
98	IN WHICH OF THE FOLLOWING FORMS IS THE ENERGY STORED IN A CAPACITOR?	D	CHARGE	POTENTIAL	CAPACITANCE	ELECTRIC FIELD
99	THE UNIT OF ELECTRIC DIPOLE MOMENT IS	D	NEWTON	COULOMB	FARAD	DEBYE
100	FARADAY'S LAWS ARE CONSEQUENCE OF THE CONSEVATION OF	B	CHARGE	ENERGY	MAGNETIC FIELD	BOTH A AND B