Physics FSC Part 2 Online MCQ's Test

Sr	Questions	Answers Choice
1	When the medium is insulator the elecrostatic force between the charges is	A. Decreased B. Zero C. Increased D. None of above
2	Metals are good conductors of electricity because they have	A. Large number of bounded electrons B. Small number of electrons C. Large number of free electrons D. Small number of free electrons
3	The number of electrons in one coulomb charge is equal to	A. 6.2 x 10¹⁸ electrons B. Zero electrons C. 1.6 x 10⁻²² electrons D. 6.2 x 10²¹ electrons
4	The photo copying process is called	A. Xerography B. Inkjet Printer C. Both (a) and (b) D. None of these
5	Electric flux is a	A. Vector quantity B. Scalar quantity C. Both (a) and (b) D. None of above
6	The electric intensity at infinite distance from the point charge is	A. Infinite B. Zero C. Positive D. Negative
7	The electric intensity due to two oppositely charged plates is	D. None of these
8	The relative permitivity of air is	A. 79.5 B. 1.006 C. 1.06 D. 1.0006
9	Which one of the following is correct	A. D. All of above
10	If a charge body moved against the electric field it will again	A. Potential energy B. K.E C. Mechanical Energy D. Electric potential energy
11	An electric field cannot deflect	A. X-rays B. a-particles C. ß-particles D. None of these
12	A force of 0.01 N is exerted on a charge 1.2 x 10^{-5} C at a certain point. The electric field at that point is	A. 1.2 x 10⁴ N/C B. 1.2 x 10⁴ C/N C. 8.3 x 10² N/C D. 8.3 x 10⁻² N/C
13	Two metallic sphere of radius 2 cm and 4 cm get equal quantity of charge. Which has greater surface charge density ?	A. 2nd sphere B. Both have same C. First sphere D. None of these
14	The number of lines per unit area passing perpendicular through an area is called	A. Flux B. Electric intensity C. Both (a) , (b) D. None of these
15	The conventional current is due to the flow of	A. Atoms and molecules B. Positive charge C. Negative charge D. Bot (b) and (c)
16	When a pot difference of 4 volt is applied across resistance, 10 J of energy is converted Find charge flows	A. 0.20 C B. 2.5 C C. 5.0 C D. 10.0 C

17	If a charge Q flows through any cross section of the conductor in time t, the current I is	A. I=Qt B. I= Q/t C. I= Q*t D. I= Q-t
18	Magnetic effect of current is used	A. To detect a current B. To measure a current C. In electric motor D. All of above
19	During electrolysis process, density of $CuSO_4$ solution	A. Remains constant B. Decreased C. Increased D. None of these
20	For non-ohmic devices, the graph between V and I is	A. Not a straight line B. A straight line C. A curve D. All of above
21	If there is no fourth band, tolerance is shows as	D. 10%
22	The resistivity of ----------decrease with the increase in temp	A. Gold B. Silver C. Copper D. Silicon
23	A rheostat can be used as variable resistor as well as a----------	A. Potential divider B. Current divider C. Wheat stone bridge D. Power divider
24	The condition for the wheatstone bridge to be balanced is given by	D. None of above
25	e.m.f is the conversion of ---------- energy into electrical energy	A. Chemical B. Solar C. Light D. None of these
26	The product of resistance and conductance is	A. 1 B. Resistivity C. Conductance D. Zero
27	Terminal potential difference is greater than emf of the cell when	A. Circuit is open B. Circuit is closed C. small battery is charged by bigger battery D. None of these
28	Unit (S.I) of temperature coefficient of resistivity of a material is	A. K B. K⁻¹ C. ^oC D. K⁻²
29	The name of the scientist who noted that a compass needle was deflected when placed near the current carrying conductor	A. Henry B. Faraday C. Coloumb D. Oersted
30	Weber is the unit of	A. Magnetic flux B. Permeability C. magnetic force D. None of above
31	The dimensions of magnetic flux are	A. M¹L⁻²T¹A¹ B. MLT⁻²A⁻¹ C. ML²T²A⁻¹ D. ML²T⁻²A⁻¹
32	The unit of magnetic induction B is	A. Coulomb B. Ampere C. Coulomb/ampere D. Weber/m²
33	The magnetic field is uniform and stronger	A. Outside the solenoid B. Inside the solenoid C. At the central part of the solenoid D. None of these
34	The permeability of free space is measured in	A. wb A/m B. Am/wb C. wb/Am D. m/wbA
35	If an electron is prijected in a magnetic field with velocity V, it will experience a force	

36	Lorentz force means the force acting on a particle, which is	A. Magnetic force only B. Electric force only C. Sum of electric and magnetic force D. None of these
37	Question Image	D. None of the above
38	CRO works by deflecting the beam of electron as they pass through	A. Uniform magnetic field B. Uniform electric field between two sets of parallel plates C. Non-uniform magnetic field D. None of these
39	In CRO, the output waveform of time base generator is	A. Circular B. Square C. Sinusoidal D. Saw-toothed
40	For accurate measurement of current through a circuit, the resistance of ammeter should be	A. Very small B. Very high C. Neither small nor high D. None of the above
41	To convert a galvanometer into an ammeter, we connect with it a	A. Shunt resistance B. Low value parallel C. Low value by pass resistor D. All of above
42	The acceleration of an electron of mass m and charge e, moving with uniform speed v at right angles to a magnetic field of flux density B, is given by	D. Bevm
43	The magnitude of motional emf is given by	
44	Michael Faraday and Joseph Henry belongs to	A. England and USA B. France and USA C. China and USA D. None of these
45	The unit of induced emf is	A. Ampere B. Volt C. Joule/coulomb D. Both (b) and (c)
46	The direction of induced current is always so as to oppose the change which causes the current, this is the statement of	A. Lenz's law B. Faraday's law C. Ampere's law D. Coulomb's law
47	Lenz's law presented in	A. 1834 B. 1934 C. 1826 D. 1836
48	Question Image	A. Lenz's law B. Faraday's law C. Ampere's law D. None of these
49	One henry is equal to	A. 1 ohm x 1 sec B. 1 ohm x 1 hertz C. 1 ohm x 1 metre D. All of above
50	Self inductance of a long solenoid is given by	D. None of the above
51	A.C is converted into D.C by	A. Dynamo B. Rectifier C. Motor D. Transformer
52	Commutator was invented in	A. 1834 B. 1820 C. 1840 D. 1835
53	If the north pole of a magnet moves away from a metallic ring	A. Clockwise B. Anticlockwise C. First clockwise and then anticlockwise D. None of above
54	Question Image	
55	When the back emf in a current is zero, it draws	A. Zero current B. Maximum current C. Minimum current D. Steady average current
		A. VSA⁻¹

56	1 Henry =	B. VS⁻¹A⁻¹ C. V⁻¹SA D. VSA⁻²
57	If V_{rms} be the root mean square value of emf then its peak to peak value is given by	
58	If I_o is the peak value of current, then its root mean square value is given by	B. 2 I_o C. I_o D. 0.7 I_o
59	The value of capacitive reactance is given by	A. Xc = VI B. xc= 1/wc or xc= wL C. xc= 1*wc or xc=Lw D. All of above
60	The peak to peak value of alternating voltage is	A. 2V_o B. V_o D. None of these
61	The reactance is the ratio of	A. V_{rms}/I_{rms} B. V_{rms} x I_{rms} C. I_{rms}/V_{rms} D. V_{max} x V_{rms}
62	In case of capacitor, the unit of reactance is	A. Farad B. Ohm C. Newton D. All of these
63	The unit of impedance is	A. Farad B. Henry C. Tesla D. Ohm
64	The natural frequency of L.C circuit is equal to	
65	The reactance of inductor depends upon	A. L D. All of the above
66	The effective value of any sinusoidal alternating current or voltage is	D. None of the above
67	At high frequency, the current through a capacitor is	A. Small B. Infinity C. Zero D. Large
68	Radio frequency choke is	A. Iron cored B. Air Cored C. Air as well as iron cored D. None of these
69	In frequency modulation, the amplitude of carrier waves is	A. Increases B. Remains constant C. Decreases D. None of these
70	The electromagnetic spectrum contains	A. Radio waves B. X-rays C. Microwaves D. All of these
71	The solids are classified as	A. Polymeric B. Amorphous C. Crystalline D. All of above
72	An ordinary glass gradually softness into a paste like state before it becomes a very viscous liquid which is possible at	A. 900^oC B. 600^oC C. 800^oC D. 100^oC
73	Yield stress is another name of	A. Plasticity B. Proportional limit C. Elastic limit D. Both (b) and (c)
74	The dimension of stress is	A. [MLT⁻¹] B. [ML⁻¹T] C. [ML⁻¹T⁻¹] D. [ML⁻¹T⁻²]
75	The conductors having the conductivity of the order of	
76	The material whose resistivity becomes zero below a certain temperature	A. Conductors B. Semi conductors C. Super conductors D. Insulators

77	Recentaly a complex crystalline structure known as yttrium barium copper oxide ($Yba_2 Cu_3 O_3$) have reported to become super conductor at	A. 163 K B. 169 K C. 200 K D. 100 K
78	Curie temperature is	A. Differen for chromium oxide and cobalt B. Same for chromium oxide and cobalt C. Same for iron and cobalt D. None of these
79	The curie temp for iron is about	A. 800^oC B. 740^oC C. 750^oC D. 650^oC
80	The domain theory of magnet is important to explain the behaviour of	A. Diamagnets B. Paramagnets C. Ferromagnets D. All of these
81	A pentaralent impurity in Si	A. a free electron and a free hole B. a free hole C. a free electron D. No free particle
82	At 0 K a piece of silicon is a	A. Conductor B. Semi-conductor C. Insulator D. All
83	Coercive force is used to	A. Demagnetize the material B. Magnetize the material C. Extend it D. None of these
84	Which of the following has bulk modulus?	A. Water B. Gas C. Honey D. All
85	The average gap for Germanium at 0K is	A. 1.12 ev B. 0.02 ev C. 6.72 ev D. 7.2 ev
86	The impurity in the germinium is usually in the ratio of	A. 1:10⁶ B. 1:10⁴ C. 1:10⁸ D. 1:10¹⁰
87	The semi conductor diode has the property of	A. Two way conduction B. Zero conduction C. One way conduction D. Amplification
88	The potential difference across depletion region in case of Si is	A. 0.6 volt B. 0.9 volt C. 0.7 volt D. 0.2 volt
89	The circuit of full wave rectification consist of	A. Three diodes B. Four diodes C. Two diodes D. One diode
90	In a certain circuit, $I_B = 40\ \mu A$, $I_C = 20$ mA	A. 450 amp B. 0.45 amp C. 5 m amp D. 500 amp
91	The symbol of p-n-p transistor is	
92	For normal transistor the emitter current can be given by	A. I_E = I_C B. I_E = I_C + I_B C. I_E = I_B D. None of these
93	In case of op-amp as an inverting amplifier, $V_+ - V_- = 0$, this is because	A. Open gain loop is very low B. Closed loop gain is very high C. Open loop gain is very high D. Both (a) and (a)
94	An expression for gain of an inverting amplifier is	C. (R₁R₂) D. None of these
95	The mathematical symbol for NOR operation is	B. X = A . B C. X = A + D
		A. NOR gate

96	The gate, which changes the logic level to its opposite level is called	B. AND gate C. OR gate D. NOT gate
97	One use of a single p-n junction semiconductor in an electrical circuit is a	A. Rectifier B. Transistor C. Battery D. Diode
98	The output from a full wave rectifier is	A. An ac voltage B. A dc voltage C. Zero D. A pulsating unidirectional voltage
99	Which one of the following paved the way for modern physics	A. Newtonian mechanics B. Theory of relativity C. Quantum theory D. All of above
100	The concept of direction is purely	A. Relative B. Absolute C. Relative to the motion D. None of these
101	Which one of the following physical quantities change with relativistic speed?	A. Length B. Time C. Mass D. All of above
102	Question Image	A. Wien's constant B. Planck's constant C. Davison constant D. Lumber's constant
103	The uncertainty principle was given by	A. De-Broglie B. Heisenberg C. Einstein D. Max Planck
104	The photoelectric effect predicts that light is made of	A. Photons B. Neutrons C. Protons D. None of these
105	The unit of work function is	A. Electron volt B. Ampere C. Volt cell D. Hz
106	If the energy of photon is 10 eV and work function is 5 eV, then the a value of stopping potential will be	A. 50 V B. 2 V C. 5 V D. 15 V
107	In the equation if f_2 > then	
108	Einstein photoelectric equation is	D. None of these
109	The Compton effect is associated with	A. X-rays B. y-rays C. Positive rays D. ß-rays
110	The numerical value of Compton wavelength is equal to	A. 3.43 x 10⁻¹² m B. 1.43 x 10⁻¹²m C. 2.43 x 10⁻¹²m D. 0.43 x 10⁻¹²m
111	Unit of Stephen's constant is	A. W m K⁻² B. W m⁻² K⁻⁴ C. W m K⁻⁴ D. None
112	Compton shift is maximum for scattering angle of photon	A. 0^o B. 90^o C. 180^o D. 45^o
113	The first theory about the structure of an atom was introduced by	A. Neil Bohr B. Einstein C. Compton D. Rutherford
114	Study of hydrogen visible spectrum in	A. 1886 B. 1887 C. 1895 D. 1885

115	The value of Rydberg constant is	A. 1.0974 x 10⁷ m⁻¹ B. 1.0974 x 10⁻⁷ m⁻¹ C. 1.0974 x 10⁶ m⁻¹ D. 1.0974 x 10⁻⁶ m⁻¹
116	Which of the following is one of the spectral series of atomic hydrogen?	A. Brockett series B. Balmer series C. P fund series D. All of above
117	If the ionization energy of hydrogen atom is 13.6 eV, its ionization potential will be	A. 136.0 volt B. 3.0 volt C. 13.6 volt D. None of these
118	The 1st Bohr atom in the hydrogen atom has radius	A. 3.56 x 10⁻¹⁰ m B. 0.053 x 10⁻¹¹ m C. 0.53 x 10⁻¹¹ m D. 5.30 x 10⁻¹¹ m
119	X-rays were discovered by	A. Curie B. Henry Becquerel C. Rontgen D. None of these
120	The X-rays diffraction with crystal was first studied by	A. W.H Bragg B. W.L. Bragg C. Michelson D. None of these
121	An atom can reside in excited state for	A. 10⁻⁸ second B. One second C. 10⁻¹⁰ second D. More than one second
122	The process by which lesser beam can be used to generate 3-dimensional images of objects is called	A. Holography B. Geo graphy C. Tomography D. Radio graphy
123	Reflecting mirrors in laser is used to	A. Further stimulation B. For producing more energetic lasers C. Both (a) and (b) D. None of these
124	Life time of metastable states is	A. 10⁻⁶ sec or more B. 10⁻³ sec or more C. 10⁻⁵ sec or more D. None of these
125	Helium-Neon laser discharge tube contains neon	A. 82% B. 15% C. 25% D. 85%
126	The idea of laser device was first introduced by C.H. Towners and Authers Schowlan is	A. 1972 B. 1965 C. 1958 D. 1913
127	Charge on an electron was determined by	A. Ampere B. Millikan C. Maxwell D. Bohr
128	The early Greeks believed that matter waves was	A. Discrete B. Continuous C. Both continuous and discrete D. All of above
129	1 amu is equal to	A. 1.0606 x 10⁻²⁷ kg B. 1.66 x 10⁻³¹ kg C. 1.66 x 10⁻³⁴ kg D. 1.66 x 10⁻¹⁹ kg
130	Radioactivity happen due to the disintegration of	A. Nucleus B. Mass C. Electrons D. Protons
131	The radioactive decay obeys the law	
132	The SI unit of decay constant is	A. m B. m⁻¹ C. S⁻¹ D. Nm⁻¹
		A. Currie

133	The first atomic reactor was introduced by	B. Enrico Fermi C. Newton D. Bohr
134	In Wilson cloud chamber, ß-particles leave	A. Thin and continuous tracks B. Thick and continuous tracks C. No tracks D. Thin and discontinuous tracks
135	The potential difference between the top and bottom of a cloud chamber is of the order of	A. 290 v B. 400 v C. 1 kv D. None of above
136	One joule of energy absorbed per kilogram of a body is	A. Roentgen B. Grey C. Rem D. Curie
137	The mass spectrum of naturally occurring neon, showing	A. 1 isotope B. 2 isotope C. 3 isotope D. 4 isotope
138	The energy of photon for photoelectric effect is less than	A. 1 MeV B. 2 MeV C. 5 MeV D. 8 MeV
139	In Wilson cloud chamber, if tracks are thick, straight and continuous, then particle is	A. a-particles B. ß-particles C. Y-rays D. All
140	Low level radiations effects	A. Less of hair B. Ulceration C. Drop of white blood cells D. All
141	Presence of dielectric always.	A. Increase the electrostatic force B. Reduces the electrostatic force C. Do not effect electrostatic force D. Doubles the electrostatic force
142	Dielectric constant ε_r for air is:	A. 1 B. 1.006 C. 1.0002 D. 1.0006
143	Force per unit charge is called:	A. Gravitational force B. Electric field intensity C. Coulomb's force D. None of these
144	Concept of electric field lines was given by:	A. Michelson B. Henry C. Michael faraday D. Oersted
145	The electric field created by positive charge is:	A. Radially outward B. Circular C. Radially inward D. Zero
146	The middle region of electric field is:	A. Maximum field spot B. Zero field spot C. Perpendicular field spot D. All of above
147	The process of copying is:	A. Axillugraphy B. Chromatography C. Xerography D. Spectrography
148	The "toner" of photocopier is given:	A. Positive charge B. Negative charge C. Remains neutral D. All of above
149	Electric flux is a:	A. Scalar quantity B. Vector quantity C. Variable quantity D. None of these
150	The total flux through a closed surface.	A. Directly proportional to shape and geometry B. Independent of medium C. Depend on shape and geometry D. Dependent on medium and the charge enclosed

151	Flux through any closed surface is:	A. 1/ε²_◦ times the total charge enclosed in it B. ε²_◦ time the total charge enclosed in it C. 1/ε_◦ ties the total charge enclosed in ti D. ε_◦ time the total charge enclosed in it
152	Net charge enclosed by Gaussian surface is:	A. zero B. maximum C. depend on intensity D. none of all
153	Electric intensity due to an infinite sheet of charge is:	A. ∂/2ε_◦ B. ∂/rε_◦ C. ∂/r2ε_◦ D. none of these
154	The electrical intensity is equal to:	A. -Δr/Δv B. Δv/Δr C. Δv/Δv D. -Δv/Δr
155	Electric potential at a distance ''r'' from ''q'' is:	A. V_r = 1/54πε_◦q/r₂ B. Vr=1/4πε_◦²q/r C. V_r=1/4πε_◦2q/r D. V_r=1/4πε_◦q²/r
156	The leV =	A. 1.6x10-19C B. 1.6x10-11J C. 1.6x10-19J D. 1.6x10-11C
157	Coulomb's force is:	A. Conservative force B. None conservative force C. Similar to frictional force D. None of the above
158	In gas the charge carriers are:	A. Electrons B. Ions C. Both a & b D. None of above
159	The drift velocity is of order:	A. 10⁻¹³m/s B. 10³ m/s C. 10⁻³m/s D. 10⁻⁴m/s
160	The free electrons experience force.	A. In direction of -E B. In direction of E C. Both A and B D. All of the above
161	Heat energy is converted into electrical energy.	A. Solar cells B. thermocouples C. Electric generators D. None of above
162	The heat produced by passage of current.	A. H=I²Rt B. H=IR2T C. H=I/Rt D. H=I²/Rt
163	The vessel containing the tow electrodes and liquid to known as.	A. Chemical cell B. Volt cell C. Volta cell D. Volta meter
164	The unit of conductivity is:	A. Ohm⁻³m⁻¹ B. Ohm m⁻¹ C. Both a and b D. Ohm m⁻¹
165	Tolerance of "Gold" band.	A. ±10% B. ±5% C. ±15% D. ±20%
166	Thermistor with high - ve temperature coefficient are very accurate for measuring low temperature especially near is.	A. 10 kelvin B. 70 kelvin C. 200 kelvin D. 35 kelvin
167	The value of maximum output power is?	A. E/4R B. E²/4R C. E/4R² D. Non of above

168	The Kirchhoff 1st rule is manifestation of:	A. Law of conservation of mass B. Law of Conservation of charge C. Law of conservation of energy D. None of above
169	The algebraic sum of potential change in a closed circuit is zero.	A. Kirchhoff's 1st rule B. Kirchhoff 2nd rule C. Krichoff's 3rd rule D. Kirchhoff 4th rule
170	Electric power:	A. Vx1 B. V²x1 C. V/1 D. V/1²
171	The color code of "Green"	A. 8 B. 3 C. 5 D. 7
172	The fraction change in resistance per Kelvin is known as:	A. Temperature coefficient of Resistance B. Coefficient of voltage of change C. Thermal expansion D. All of the above
173	Semiconductor diodes are called:	A. Ohmic B. non ohmic C. Both a & b D. none of above
174	The unit of resistance is:	A. Ω B. Ωm C. Ω⁻¹m⁻¹ D. Ωm⁻¹
175	The unit of magnetic induction is:	A. Tesla B. Weber C. Weber metre D. NAm⁻¹
176	1 tesla =	A. 1 MAm⁻¹ B. 1NA⁻¹m C. 1NA⁻¹m⁻¹ D. None of above
177	The conductor experience force, placed in magnetic above:	A. Move towards weaker part of field B. Move towards stronger part of field C. Remains at rest D. Move upwards in space
178	The unit of Magnetic flux is called.	A. weber B. weber/m² C. NM⁻¹A⁻¹ D. None of above
179	μ◦ (Ampere's constant) has value.	A. 4πx10⁻⁷ WbA⁻¹m⁻¹ B. 4πx10⁻¹⁷ Wbm² C. 4πx10⁷ WbA⁻¹m⁻¹ D. 4πx10-27 Wb/m²
180	The field is strong and uniform.	A. Inside the solenoid B. Surrounding of solenoid externally C. Perpendicular to solenoid D. All of above
181	The magnetic field inside solenoid is given:	A. μ_◦nI² B. μ_◦nI C. μ_◦n/1² D. μ_◦I/n
182	The vector sum of electric force and magnetic force is called:	A. Deflecting force B. Lorentz force C. Newton force D. Faraday's force
183	e/m=	A. v/Br B. Br/V C. VB/r D. Vr/B
184	The anodes in cathode ray oscilloscope.	A. Control number of waves B. Control brightness of sept formed C. Accelerate as well as focus beam D. Negative potential w.r.t to chithode
		A. Increasing C/BAN factor

185	The sensitivity of Galvanometer can be increased by:	A. Increasing C/BAN factor B. Decreasing C/BAN factor C. Increasing angle θ D. All of above
186	An ammeter is an electrical instrument which is used to measure.	A. Voltage B. Current C. Resistance D. None
187	The Grid 'G' in cathode ray oscilloscope.	A. Accelerate as well as focus electron beam B. Control no. of electrons beam C. Is at - Ve potential with respect to cathode. D. Both d and b
188	Torque on a current carrying coil	A. τ=IBA cos B. τ = ILB sinα C. τ = IBA sinα D. τ = ILBcosα
189	A galvanometer is an electrical instrument used to	A. Measure resistance B. Measure voltage C. Detect passage of current D. None of these
190	A soft iron cylinder is placed inside coil galvanometer to:	A. Make field circular and strong B. Make field radial and weak C. Make field radial and strong D. All of above
191	NIBA =	A. cθ B. θ/c C. c²θ D. c²/θ
192	Electric current produces magnetic field, was suggested by.	A. Faraday B. Oersted C. Henry D. Lenz
193	The current induced can be increased by:	A. Using a stronger magnetic field B. Moving the loop faster C. Replacing the loop bay coi of many turns D. All of above
194	The movement of conductor in magnetic field produces electrical current was discovered in:	A. 1931 B. 1731 C. 1842 D. 1831
195	The emf induced by the motion of a conductor across a magnetic field is called:	A. Motional emf B. Rotational emf C. Induced emf D. All of above
196	Lenz's law was given by Heinrich lenz in:	A. 1894 B. 1904 C. 1854 D. 1834
197	The Lenz's law is also statement of:	A. Law of conservation of mass B. Law of conservation of charge C. Law of conservation of energy D. Law of conservation of momentum
198	The direction of induced current is always so as to oppose the change which causes the current is:	A. Faraday's law B. Lenz's law C. Ohm's law D. Kirchhoff's 1st rule
199	The Direction of induced current is always so as to oppose the change which causes the current, is:	A. Faraday's law B. Lenz's law C. Ohm's law D. Kirchhoff' s1ast rule
200	Electromagnetic induction is exactly according to law of:	A. Momentum B. Charge C. Energy D. Mass
201	If force in the direction of velocity of conductor, then induced current is directed,	A. Anti clockwise B. Clock wise C. At equilibrium D. None of above
202	The Si unit of Mutual inductance is:	A. VA⁻¹S⁻¹ B. VAS⁻¹ C. VSA⁻¹ D. ASV⁻¹

		D. ASV⁻¹
203	In self induction A coil is connected in_____ with battery and a rheostat.	A. Parallel B. Series C. Both A and B D. None of above
204	Energy stored in an inductor is:	A. 1/2L²I B. 1/2L²/I C. _{1/2LI}² D. 1/2LI
205	Energy density of an inductor is:	A. UM=1/2μ_◦/B² B. Um = 2μ_◦/B C. UM = 1/2B²/μ_◦ D. Um = 2B²/μ_◦
206	A current generator device converts:	A. Mechanical energy into chemical energy B. Chemical energy into electrical energy C. Mechanical energy into electrical energy D. Both b and c
207	DC generator by william Sturgeon in:	A. 1894 B. 1961 C. 1834 D. 1961
208	Commutator was invented by:	A. William bills B. William Gates C. William tells D. William Sturgeon
209	The magnitude of back emf:	A. Increases with sped of motor B. Decreases with speed of motor C. Remains same D. None of above
210	The main reason for world wide use of A.C is because:	A. It is very high power B. It can be transmitted over long distance C. It is cheaper to use D. ALl of above
211	The highest value reached by the voltage or current is one cycle is called:	A. Peak to peak value B. Peak value C. Instantaneous value D. Root mean square value
212	Vrms =	A. 0.7V_◦ B. 0.07V_◦ C. 0.007V_◦ D. 0.75V_◦
213	In purely resistive A.C circuit, instantaneous value of voltage and current:	A. Current lags behind voltage B. Current leads voltage by π/2 C. Both are in Phase D. Voltage leads current by Pase θ=π/2
214	In A.C circuit through a capacitor which one is:	A. Current leads voltage by 90[◦] B. Current lags behind voltage by 90[◦] C. Both will be in phase D. None of above
215	The internal resistance of a capacitor is called:	A. Impedance B. Resistance C. Reactance D. Conductance
216	Xc =	A. 1/2πfc B. 2πfc C. 2π/fc D. fc/2π
217	In A.C circuit of inductor which one is true	A. Voltage leads current by phase angle π/2 B. Voltage lags current by π/2 C. Current leads voltage by π/2 D. Both remain in phase
218	X_L=	A. 2πfL B. 1/2πfL C. 2πfL D. fL/2π
219	The combined effect of resistance and reactance in circuit is called:	A. Impedance B. Inductance C. Capacitance D. None of above
		A. A B. Z

220	Impedance is denoted by:	B. Z C. P D. Q
221	Unit of impedance is:	A. Ohm B. Ohm⁻¹ C. no unit D. Ohm m⁻¹
222	Power dissipation is a pure inductive or in a pure capacitance circuit is:	A. 10⁶ B. 0 C. 10[◦] D. Maximum
223	Power dissipation in A.C circuit is expressed as:	A. P =I_{rms} x V_{rms} Sinθ B. IxVCosθ C. I_{rms}xV_{rms}Cosθ D. I_{rms} x V_{rms} Sin2θ
224	The condition of resonance is:	A. XL = 1/2 Xc B. X_L = X_c C. X_c = 4_{x2} D. None of above
225	The resonance frequency is given by:	A. fr = 2π√LC B. fr = 1/2πLC C. fr = 1/ 2π√LC D. f1 = 1/ 2πC√L
226	In Series resonance circuit the impedance of circuit art resonance frequency, is	A. Maximum B. Minimum C. It is unequal to R D. None of above
227	There is regular arrangement of molecules in:	A. Amorphous solids B. Crystalline solids C. Both a and b D. None of above
228	The word amorphous means:	A. Regular structured B. Without form or structure C. Frozen structured D. None of above
229	The solid with definite M.L are called:	A. Crystalline B. Amorphous C. Polymeric D. None of above
230	Natural rubber is an example of:	A. Crystalline solids B. Amorphous solids C. Polymeric solids D. None of above
231	The SI unit of Stress is:	A. Nm B. Nm² C. NM⁻² D. Nm³
232	The unit of strain is:	A. Nm B. Nm⁻² C. no unit D. Nm²
233	The ratio of applies stress to volumetric strain is called:	A. Young modulus B. Shear modulus C. Bulk modulus D. Tensile modulus
234	Shear modulus is expressed as:	A. G = tanθ/F/A B. F/A/tanθ C. F/tanθ D. tanθ/A
235	Conductors have conductivities of order:	A. 10³(Ωm)-1 B. 10⁷(Ωm)⁻¹ C. 10⁷Ωm⁻¹ D. 10⁻⁶Ω
236	Semiconductors have conductivity of order:	A. 10⁻⁸ to 10⁻⁶ (Ωm)⁻¹ B. 10⁻⁶ to 10⁻⁴ (Ωm)⁻¹ C. 10² to 10⁵ (Ωm)⁻¹ D. 10⁻⁵ to 10⁻⁷ (Ωm)⁻¹
		A. Hund's Rule

237	Energy band theory is based upon	B. Heisenberg uncertainty principle C. Bohr's atomic Model D. Wave mechanical model
238	The temperature at which, semiconductor behaves as insulators:	A. 10k B. 0k C. 237k D. None of above
239	A semiconductor in its extremely pure form is known as:	A. Intrinsic B. Extrinsic C. Both a and b D. None of above
240	Insulators have:	A. An empty conduction band B. Al full valence band C. A large energy gap D. All of above
241	Those materials whose resistivity becomes zero at certain temperature is called:	A. Semiconductor B. Super conductor C. Conductor D. Insulator
242	The first superconductor was discovered in:	A. 1831 B. 1911 C. 1921 D. 1876
243	Recently superconductor discovered is at temperature.	A. 110K B. 143K C. 16.3K D. 119K
244	The chargeless region after formation of Pn junction is called:	A. Free region B. Depletion region C. Field region D. U.V region
245	The P.D develop in case of silicon is:	A. 0.7V B. 0.3V C. 0.5V D. 0.9V
246	The P.D develop in case of germanium is:	A. 0.3 B. 0.7 C. 0.5 D. 0.9
247	The p-n junction in which p side is connected to+ive and n-side is -ve the junction is said to be:	A. Neutral B. Forward biased C. Reversed biased D. None of above
248	In case of reverse biasing, current is flown due to:	A. Minority charge carriers B. Majority charge carriers C. Electrons D. Protons
249	Photodiode is used for:	A. Detection of current B. Detection of heat C. Detection of light D. Both a & b
250	Transistor was invented by:	A. Bardeen B. Micheal faraday C. Lenz D. Newton
251	A transistor has:	A. Two regions B. Three regions C. Single regions D. Four regions
252	Base of transistor is of order:	A. 10⁻¹¹m B. 10⁶m C. 10⁻⁸m D. 10⁻⁶m
253	Which one has greater cone of impurity among all:	A. Emitter B. Base C. Collector D. All are pure
254	For normal use:	A. Emitter base function is reversed biased B. Collector base junction is reserved biased C. Emitter base junction is forward biased D. Both c and b

255	NAND gate represented by:	A. X = A. B B. X = A+B C. X= A.B D. X=|A+B|
256	OR gate is represented by:	A. X = A+B B. X=A.B C. X=A+B D. X=A.B
257	Conversion of A.C into D.C is called:	A. Compton effect B. Rectification C. Amplification D. Pair production
258	A transistor has parts:	A. 2 B. 3 C. 4 D. 5
259	Which device is used as a rectifier?	A. Capacitor B. Transistor C. Diode D. Transformer
260	When platinum is heated is become dull red at:	A. 900°C B. 500°C C. 800°C D. 1100°C
261	A block body is an ideal:	A. Absorber B. Radiator C. Both a & b D. None of above
262	The value of Wien's constant:	A. 2.9x10⁻³mk B. 2.19x10⁻⁷mk C. 3.18 x10⁶ km⁻¹ D. 6.21 x 10⁻⁹m²wk³
263	The value of Stefan is constant is:	A. 4.57 x 10⁻⁸ m²k² B. 5.67 x10⁻⁸ wm⁻²k⁻⁴ C. 6.67x 10⁻¹¹ wm²k⁴ D. 7.45 x 10⁻⁹ m² wk³
264	Max planck received noble prize in:	A. 1927 B. 1932 C. 1918 D. 1914
265	The unit for Plank's constant is:	A. Js⁻¹ B. Jm C. Js D. Jm²
266	The emission of electrons from metal surface when exposed to light is called:	A. Compton effect B. Pair production C. Photoelectric effect D. None of above
267	The minimum frequency needed to emit an electron form metal surface is called:	A. Work function B. Threshold frequency C. Quanta frequency D. All of above
268	Minimum energy needed to escape an electron ofrm metal surface is called:	A. Threshold energy B. Threshold frequency C. Work function D. Work ability
269	Albert Einstein got noble prize for service in:	A. Pair production B. Annihilation of matter theory C. Compton effect D. Photoelectric effect
270	Albert Einstein got noble prize in:	A. 1926 B. 1921 C. 1918 D. 1931
271	When a very high energy modeules such as y radiation interact with matter, the phenomenon arising will be.	A. Photoelectric effect B. Compton effect C. Pair production D. Annihilation of matter

272	The minimum energy required for occurrence of pair production is:	A. 1.022eV B. 1.02keV C. 1.02Me.V D. 1.04MeV
273	The converses of annihilation of matter is:	A. Photoelectric effect B. Relativistic effect C. Pair production D. Compton effect
274	The existence of positron was discovered in:	A. 1929 B. 1928 C. 1931 D. 1933
275	The most refined form of matter is:	A. Smoke B. Light C. Ice D. Fog
276	Wave nature of particle was given by:	A. Clemensen B. Louis de Broglie C. Laster H. Germer D. Clinton S. Davisson
277	Black Body radiation spectrum is an example of:	A. Atomic spectra B. Line spectra C. Continuous spectra D. None of above
278	The first spectral lines were discovered in 1885, were	A. Paschen series B. Balmer series C. Pfund series D. Bracket series
279	The value of Rydberg constant is:	A. 1.0749x10⁷m⁻¹ B. 1.0974 x 10⁷ m⁻¹ C. 1.974 x10⁶m⁻¹ D. 1.0974 x 10⁻⁷ m⁻¹
280	The series in visible region is:	A. Balmer series B. Pfund series C. Paschen series D. None of above
281	The series in infrared region is:	A. Paschen series B. Bracket series C. Pfund series D. All of above
282	The radius of hydrogen atom is:	A. 0.53A° B. 0.053A° C. 0.53 x 10⁻⁹ D. 0.053 x10⁻⁹
283	The velocity of electron moving is 1st orbit of hydrogen atom is:	A. 2.09 x 10⁶ ms⁻¹ B. 2.18 x10⁶ ms⁻¹ C. 2.19 x 10⁶ ms⁻¹ D. 3.18 x10⁶ ms⁻¹
284	The typical nuclei are less than:	A. 10⁻¹⁶m B. 10⁻¹⁴m C. 10⁻¹²m D. 10⁻¹⁰m
285	The temperature of core of nuclear reactor is:	A. 1100°C B. 1200°C C. 1300°C D. 1400°C
286	Energy produced due to fission of uranium atom is:	A. 500MeV B. 200MeV C. 700MeV D. 750MEV
287	A° is the unit of:	A. Energy B. Length C. Nuclear energy D. Work
288	Charge on positron is:	A. Negative B. Positive C. Netural D. None of these
289	Electron volt is unit of:	A. Chemical energy B. Potential energy

289	Electron volt is unit of:	C. Nuclear energy D. heat energy
290	Charge on an atom is:	A. Positive B. Negative C. Neutral D. None of these
291	Boher proposed his atomic model in:	A. 1910 B. 1911 C. 1912 D. 1913
292	1 rad =	A. 0.001Gy B. 0.01Gy C. 0.1Gy D. 1.01Gy
293	1 rem =	A. 0.001 SV B. 0.01 SV C. 0.1 SV D. 1.01 SV
294	The scientist who suggested the presence of neutron was:	A. Bohr B. Rutherford C. Chadwick D. J.J Thomson
295	The mass of protons is:	A. 1.675 x 10⁻²⁷ kg B. 1.693 x 10⁻²⁷ kg C. 1.673 x 10⁻³¹ kg D. 1.673 x 10⁻²⁷ kg
296	amu =	A. 1.06 x 10⁻²⁷ kg B. 1.6606 x 10⁻²⁷ kg C. 1.520 x 10⁻²¹ kg D. 1.6606 x 10⁻³¹ kg
297	The mass of proton in amu is:	A. 1.07276 B. 1.7276 C. 1.007276 D. 1.0007276
298	The total charge of any nucleus is:	A. Ze B. Z C. Both a and b D. None of above
299	Both xenon and caesium each have:	A. 41 isotopes B. 36 isotopes C. 43 isotopes D. 33 isotopes
300	The most abundant isotope of neon is:	A. Neon 21 B. Neon 20 C. Neon 22 D. None of above
301	The binding energy for_____ is maximum.	A. Copper B. Glass C. Iron D. Aluminum
302	Those elements whose charge number z is greater then _____ are unstable:	A. 80 B. 79 C. 82 D. 83
303	The unit of radioactivity is:	A. Bequerel B. Henry C. Pascal D. Joule
304	Rutherford performed on experiment on a nuclear reaction in:	A. 1921 B. 1981 C. 1927 D. 1932
305	Before and after nuclear reaction the number of protons and neutrons:	A. Must be different B. Must be decreased C. Must be increased D. Remains same
306	I amu =	A. 9.31 MeV B. 931 MeV C. 9.031 MeV D. None of above

307	James chadwick discovered:	A. Proton B. Positron C. Neutron D. Electron
308	Binding energy per nucleus for uranium is above:	A. 6.7 Mev B. 7.7 Mev C. 6.9 MeV D. 7.9 MeV
309	Nuclear fission was discovered by:	A. Otto Hahn B. Friz strassmann C. Both a and b D. Michaelson
310	Controlling rods inserted into the reactor are of metal:	A. Aluminium B. Cadmium C. Magnesium D. Copper
311	A charge Q is divided into tweo parts q and Q-q and seperated by a distance R. The force of equilibrium between them will be maximum when:	A. q=Q/4 B. q=Q/2 C. q=Q D. None of these
312	Some charge is being given to a conductor. Then its potencial	A. Its maximum at surface B. Its maximum at Its maximum at center C. Is remain same throughout the conductor D. Is maximum somewhere between surface and centre
313	Electric potencial of earth is taken to be zero because the earth is good:	A. Semiconductor B. Conductor C. Insulator D. Dielectric
314	A proton is about 1840 time than an electron. When it is accelerated by a potencial difference if 1 kV, its kinetic energy will be:	A. 1884 ke V B. 1/1840 keV C. 1 keV D. 920 keV
315	A capacitor is charged with a battery and then it is disconnected. A slab of dielectric is now inserted between the plates, Then	A. The charge in the plates reduces and potencial difference increase B. Potencial difference between the plates increase, stored energy decreases and charge remains the same C. Potencial difference between the plates decreases, stored energy decreases and charge remains unchanged D. None of them
316	A one microfarad capacitor of a TV is subjected to 4000 V potencial difference.The energy stored in capacitor is:	A. 8 j B. 16 j C. 4 x 10⁻³j D. 2 x 10⁻³j
317	The electric field in some region of of space is uniform in magnitude and direction. Which one of the following five statements best desccribes the volume charge density (ρ) , in this region of space?	A. ρ = 0 B. ρ decreases linearly in the direction of the electric field C. ρ increases linearly in the direction of the electric field D. ρ has a uniform value throughout the region E.
318	Two parrallel, metal plates are a distance 8.00 m apart. The electric field between the plates in uniform, Directed toward the right , and has a magnitude of 4.00 N/C. If an ion of charge +2e is released at rest at the left-hand plate. What is its kinetic energy when reaches the right-hand plate?	A. 4 eV B. 64 eV C. 32 eV D. 16 eV
319	Seven resistances are connected as shown in the figures . THe equivalent resistance between A and B is:	A. 3Ω B. 4Ω C. 4.5Ω D. 5Ω
320	Three resistors of resistance R each are combined in various ways, Which of the following cannot be obtained?	A. 3 RΩ B. 2R /4Ω C. R/3Ω D. 2R /3Ω
321	Calculate current in 2 2R /4Ω resistor.	A. 1 A B. 2R /4Ω C. R/3Ω D. 2R /3Ω

322	106 electrons are moving through a wire per second the current developed is:	A. 1.6 x 10-19 A B. 1 A C. 1.6 x 10-13A D. 106 A
323	When a wire is stretched and its radius becomes r/2, then its resistance will be	A. 16 R B. 4 R C. 2R D. 0
324	A wire uniform cross-section. A length L and resistance R is cut into two equal parts. The resistivity of each part will be:	A. Doubled B. Halved C. Remain the same D. One fourth
325	The resistivity of two wires isρ_1 andρ_2 which are connected in series. If there dimentions are same then the equivalent resistivity of the combination will be:	A. (ρ₁ + ρ₂) B. 1/ρ₁+ 1/ρ₂ C. ρ₁+ρ₂/2 D. ρ_{1/}ρ₂
326	The powers of two electric bulbs are 100w and 200w. Which are connected to power supply of 220 V. The ratio of resistance of their filament will be:	A. 1:2 B. 2:1 C. 1:3 D. 4:3
327	Thermosouple is an arrangement of two different metals:	A. Two convert heat energy into electrical energy B. To produce more heat C. To convert heat energy into chemical energy D. To convert electrical energy into heat energy
328	A moving charge is surrounded by:	A. 2 Fields B. 3 Fields C. 4 Fields D. None of these
329	A photon while passing thorugh a magnetic field are deflected towards:	A. North pole B. South pole C. Are ionized D. None of these
330	Magnetism is related to:	A. Stationary charges B. Moving charges C. Stationary & Movingcharges D. Law of motion
331	When charge particle enter perpendicular to magnetic field, the path followed by it is:	A. A helix B. A circle C. Straight line D. Ellipes
332	The torque in the coil can be increased by increasing:	A. No. of turns B. Current and magnetic field C. Area of coil D. All of the above
333	The magnetic flux will be max, For an angle of:	A. 0° B. 60° C. 90° D. 180°
334	The Weber is unit of measure of:	A. Conductance B. Electric current C. Magnitic flux D. Electric flux

335	One weber is equal to:	A. N.A ²/m B. N.m²/A C. N.A/m D. N.m/A
336	An electron moves at 2 x 10^2 m/sec perpendicular to magnetic field of 2T what is the magnitude of magnetic force:	A. 1 x 10⁻⁶ N B. 6.4 x 10⁻¹⁷ N C. 3.6 x 10⁻²⁴ N D. 4 x 10⁶ N
337	The force on a charge particle moving parallel to magnetic field is:	A. Maximum B. Minimum C. Zero D. None of these
338	Ampere's law is applicable to:	A. Circular path B. Rectangular path C. To any closed path D. Nonwe of these
339	The unit of permiability of free space is:	A. T.m/A B. T.m²/A C. T.m/A² D. None of these
340	For inducing emf in a coil the basic requirement is that:	A. Flux should link the coil B. Change in flux should link the coil C. Coil should form a closed loop D. Both (b) and (c) are true
341	The device in which induced emf is statically induced emf is:	A. Transforms B. AC generator C. Alevator D. Dynamo
342	The north pole of a magnet is brought near a metallic ring. The direction of induced current in the ring will be:	A. Antoclockwise B. Clockwise C. First Clockwise and then Antoclockwise D. First anticlockwise and then Clockwise
343	What is the co-efficient of mutual inductance, when the magnetic flux changes by 2 x 10^{-2} Wb, and change in current is 0.01 A?	A. 2 H B. 3 H C. 1/2 H D. Zero
344	The induced emf in a coil is proportional to:	A. Magnetic flux through the coil B. Rate of change of Magnetic flux through the coil C. Area of the coil D. Product of magnetic flux flux and area of the coil
345	In a coil current change from 2 to 4 A in .05 s . If the average induced emf is 8 V then coefficient of self-inductance is:	A. 0.2 henry B. 0.1 henry C. 0.8 henry D. 0.04 henry
346	Which of the following quantities remain constant in step up transformer?	A. Current B. Voltage C. Power D. Heat
347	Step up transfer has a transformation ratio of 3:2. What is the voltage in secondary , If voltage in primary is 30 V?	A. 45 V B. 15 V C. 90 V D. 300 V
348	Eddy current is produced when:	A. A metal is light in varying magnetic field B. A metal is kept in steady magnetic field C. A circular coil is placed in a steady magnetic field D. A current is passed through a circualr coil
349	The AC system is preferred to DC system because:	A. AC voltage can be easily changed in magnitude B. DC motor angular velocity is affected badly C. High voltage AC transmission is less efficient D. Domestic appliance require AC voltage for their operation
350	A capacitor is perfectly insulator for:	A. Direct current B. Alternating current C. Direct as well as alternating current D. None of these
351	The peak value of alternating current is $5\sqrt{2}$ A. The mean square value of current will be:	A. 5A B. 2.5A C. 5√2A D. 5²
	The peak value of alternating current is $5\sqrt{2}$ A. The mean square value of	A. 5A B. 2.5A

352	The peak value of alternating current is 5√2 A. The mean square value of current will be:	C. 5√2A D. 5²
353	In chopke coil the resistance X_L an resistance R are:	A. X_L=R B. X_L<<R C. X_L>>R D. X_L=∞
354	In an LRC circiut, the capacitance is made one-fourth, when an resonance . Then what should be change in inductance, so that the circuit remain in resonance?	A. 4 times B. 1/4 times C. 8 times D. 2 times
355	In AC system we generate sine wave form because:	A. It san be easily draw B. It produces least disturbance in electrical circuits C. It is nature standard D. Other waves cannot be produced easily
356	The phase difference between the current and voltage at resonce is:	A. 0 B. π C. -π D. π/2
357	An alternating voltage is given by 20 sin 157 t. Th efrequency of alternating voltage is:	A. 50 Hz B. 25Hz C. 100 Hz D. 75 Hz
358	In LR circiut which one of the following statements is correct?	A. L and R opposes each other B. R value increases with frequency C. The inductive reactance increases with frequency D. The inductive reactance decreases with frequency
359	An alternating quantity (voltage or current) is completely known if we know its:	A. Maximum B. Frequency and phase C. Effective value D. Both (a) & (b)
360	For electromagnetic waves, Maxwell generalized	A. Gauses law for magnetism B. Gauses law for eletricity C. Fradays law D. Amperes law
361	An electromagnetic wave goes from air to glass which of the following does not change?	A. Radio waves B. X-rays C. Ultra violet radiation D. Ultra sond waves
362	The circuit in which current and voltage are in phase, the power factor is:	A. Zero B. 1 C. -1 D. 2
363	A wire stretched to double of its length, its strain is:	A. 2 B. 1 C. 0 D. 0.5
364	Which of the modulus of elasticity is involved in compressing a rod to decrease its length ?	A. Young's modulus B. Bulk modulus C. Modulus of elasticity D. None of these
365	Which of the modulus of elasticity is involved in compressing a rod to decrease its length ?	A. Young's modulus B. Bulk modulus C. Modulus of elasticity D. None of these
366	If both the length and radius of the rod are doubled, then the modulus of elasticity will:	A. Increase B. Decrease C. Remains the same D. Doubled
367	Curie temperature is a point where :	A. Diamagnetism changes to paramagnetism B. Paramagnetism changes to Diamagnetism C. Ferromagnetism changes to paramagnetism D. Paramagnetism changes to Ferromagnetism
368	A cable breaks if stretched by more than 2mm. It is cut into two equal parts. How much either part can be stretched without breaking?	A. 25 m B. 1mm C. 2mm D. 0.5 m

369	In an N-type silicon, which of the following statement is true?	A. Electrons are majority carriers & trivalent atoms are the dopants B. Electrons are majority carriers & pentavalent atoms are the dopants C. Holes are minority carriers & pentavalent atoms are the dopants. D. Holes are minority carriers & trivavalent atoms are the dopants.
370	The reverse saturation current in a PN junction diode is only due to:	A. Majority carriers B. Minoritycarriers C. Acceptor ions D. Donor ions
371	Improper bisting of a transistor circiut produces:	A. Heavy loading of emitter current B. Distortion in the output output signal C. Excessive heat at collector terminal D. Faculty location of load line
372	When transistor are used in digital circuits they usually operate in the :	A. Active region B. Break down region C. Saturation & cutoff regions D. Linear region
373	Most of the electrons in the base of an NPN transistor flow:	A. Out of the base lead B. Into the collector C. Into the emit D. Into the base supply
374	In a transistor, collector current is controlled by:	A. Collector voltage B. Base current C. Collector resistance D. All of the above
375	In a transistor, collector current is controlled by:	A. Collector voltage B. Base current C. Collector resistance D. All of the above
376	If the kinetic energy of a free electron doubles, its de Broglie wavelength changes by the factor.	A. √2 B. 1/√2 C. 2 D. 1/2
377	Eintein's Photoelectric equation is E_k= hf -⌀ in this equation E_1, refers to:	A. K.E of al the emited electrons B. Mean K.E of emited electrons C. Maximum K.E of emited electrons D. Minimum K.E of emited electrons
378	De-Broglie waves are associated with	A. Moving charged particles only B. Moving neutral particles only C. All moving particles D. All parties whether in motion or at rest
379	A perfect absorber must also be perfect	A. Cavity B. Sources of radiation C. Radiator D. None of these
380	Pair production occurs only when energy of photon is at least equal in:	A. 1.02keV B. 1.02 eV C. 1.02 MeV D. 1.02 GeV
381	Pair production cannto take place in vacuum because :	A. Mass in not conserved B. Momentum is not conserved C. Energy is not conserved D. Charge is not conserved
382	The position has charge which is in magnitude equal to the charge on	A. Electron B. Proton C. β particle D. All
383	We can never accurately describes all aspects of sbatomic particles simulatanously. It is correct according to:	A. Uncertainity Priciple B. De-broglie Theory C. Einstin Theory D. Photo electric effect
		A. Electron obys a wave nature

384	An electron miroscope emplys which to one of the following particles?	A. Electron anve a wave nature B. Electrons can be focused by an electric field C. Electrons can be focused by a magnetic field D. All of the above
385	If 13.6 eV energy is required to ionize the hydrogen atom, then the required energy to remove an electron from n=2 is:	A. 10.2 eV B. 0 eV C. 3.4 eV D. 6.8 eV
386	For an atom of hydrogen atom the radius of the first orbit is given by:	A. H/me² B. me/4h² C. h2/4π² kme² D. h² me²
387	The Balmer series is obtained when all the transition of electrons terminate on	A. 1st orbit B. 2nd orbit C. 3rd orbit D. 4th orbit
388	In according with Bohr's theory the K.E of the electron is equal to:	A. ke²/2r B. Ze²/r C. Ze²/r² D. Ze²/2r²
389	In the Bohr's model of the hydrogen atom, the lowest orbit corresponds to:	A. Infinite energy B. Maximum energy C. Minimum energy D. Zero energy
390	When an electron in an atom goes from a lower to higher orbit its:	A. K.E increases , P.E decreases B. K.E increases , P.E increases C. K.E decreases , P.E increases D. K.E decreases , P.E decreases
391	Frequency of x-rays depends upon.	A. Number of electrons striking target B. Accelerating potencial C. Nature of the target D. Both B and C
392	Target material used in x-rays tube have following properties.	A. High atomic number and high melting pouint B. High atomic number and low melting pouint C. Low atomic number and low melting pouint D. High atomic number only
393	Laser is a device which can produce:	A. Intense beam of light B. Coherant beam of light C. Monochromatic beam of light D. All of the above
394	The bnding energy for nucleus A is 7.7 Me V and that for nucleus B is 7.8 MeV. Which nucleus has the larger mass?	A. Nucleas A B. Nucleus B C. Less than nucleus D. None of these
395	How many neutrons are there in the nuclide Zn^{66}?	A. 22 B. 30 C. 36 D. 66
396	Mass equivalent of 931 MeV energy is:	A. 6.02 x 10⁻²³ kg B. 1.766 x 10⁻²⁷kg C. 2.67 x 10⁻²⁹kg D. 6.02 x 10⁻⁸⁷kg
397	The energy equivalent of 1 kg of matter is about:	A. 10⁻¹⁵ J B. 1 J C. 10⁻¹²J D. 10⁻¹⁷J
398	The radio active nuclide $_{86}Ra^{228}$ decays by a series of emissions of three alpha particles and one beta particle. The nuclide X finally formed is:	A. ₆₄X²²⁰ B. ₈₆X²²² C. ₈₄X²¹⁶ D. ₈₈X²¹⁵
399	A radio active substance has a half life of four months. 3 -fourth of the substance will decay in:	A. 6 months B. 8 months C. 12 months D. 16 months
400	Gamma radiations are emitted due to:	A. De-excitation of atom B. De-excitation of nucleus C. Excitation of atom D. Excitation of nucleus
		A. ms

401	Unit of decay constantλ is:	B. m⁻¹ C. m D. S⁻¹
402	Unit of decay constantλ is:	A. ms B. m⁻¹ C. m D. S⁻¹
403	Which of the following basic force is able to provide an attraction between two neutrons:	A. Electrostatic and nuclear b B. Electrostatic and gravitational C. Gravitational and strong nuclear D. Only nuclear force
404	Bottom quark carries charge :	A. 2/3 e B. -2/3 e C. +1/3 e D. -1 /3 e
405	If the medium between the charges is not free space then electrostatic force will.be	A. Increase B. Decrease C. Remain same D. None of these
406	For which material medium, force between two charged particles is maximum.	A. Ammonia B. Germanium C. Mica D. Teflon
407	The electrons in one coulomb change is equal to.	A. 1.6 x 10⁻¹⁹ B. 2.25 x 10⁻¹⁹ C. 6.25 x 10⁻¹⁸ D. 6.25 x 10⁻¹⁹
408	The SI unit of relative permittivity is.	A. Fm-1 B. C2N-1m-2 C. Nm2C-2 D. No unit
409	The electrostatic force between two charges is 42 N, If we place a dielectric of E_y=2.1 between the charges then the force become equal to.	A. 42 N B. 88.2 N C. 20 N D. 2 N
410	If the distance between the two charged bodies is halved, the force between them becomes.	A. Double B. Half C. Four times D. One times
411	If both the magnitude of charges and distance between them is doubled, then coulomb's force will be.	A. Doubled B. Hlaf C. Remain same D. One fourth
412	the force between two charge is 28 N. If paraffin wax of relative permittivity 2.8 is introduced between the charges as medium, then the force reduces to.	A. 25 N B. 20 N C. 10 N D. 15 N
413	Two oppositely charged balls A and B attract the third ball C, when placed near them turn by turn The third ball C must be.	A. Positively charged B. Negatively charged C. Electrically neutral D. Positively and negatively charged
414	If F1 and F2 are teh magnetic forces acting on a particle and electron respectively when moving perpendicular to the magnetic field then.	A. F1=F2 B. F1>F2 C. F1<F2 D. F1 = 4F2
415	If the distance between two charges is halved and charges are also doubled, then force between them will be.	A. Two time B. Four time C. Eight time D. Sixteen time
416	S.I unit of strength of electric field is	A. J/C B. C/V C. V/C D. N/C
417	NC-1 is the SI unit is	A. Force B. Charge C. Current D. Electric intensity
418	The fact that electric field exist in space around an electrical charge is	A. Electrical property B. Gravitational property C. Intrinsic property of nature D. Extrinsic property of nature

419	Concept of the electric field lines is introduced by	A. Coulomb B. Faraday C. Einstein D. Joseph henry
420	Electric field intensity at a point is defined by the relation.	A. E= q/F B. E = F/q C. E = qF D. E = F/q2
421	One joule is equal to.	A. 1.6 x 10¹⁹ eV B. 1.6 x 10⁻¹⁹ eV C. 6.25 x 10⁻¹⁸ eV D. 6.25 x 10 ¹⁸ eV
422	The electric field created by positive charge is	A. Radially inward B. Zero C. Circular D. Radially outward
423	The electric field lines are closer where the field is	A. Strong B. Weak C. Uniform D. Variable
424	Closeness of the electric field lines is the measure of.	A. Direction of field B. Strength of field C. Potential difference D. Uniformity of field
425	A charge on 4 coulomb is in the field of intensity 4N/C the force on the charge is.	A. Uniform B. Non uniform C. Weak D. Strong
426	Photo copier and inkjet printer are the applications of	A. Magnetism B. Electricity C. `.Electro magnetism D. Electrostatics
427	Identify the practical application of electrostatic force.	A. Inkjet printer B. x rays C. Laser D. A.C. Generator
428	One of the applications of electrostatic induction is	A. Laser B. Photocopier C. X ray machine D. Wilson cloud chamber
429	Selenium is a	A. Insulator B. Photoconductor C. Conductor D. First insulator then conductor
430	The toner of printer is given	A. Positive charge B. Negative charge C. Neutral D. First positive then negative
431	Drum of photocopier is made of.	A. Copper B. Aluminum C. Nickel D. Cobalt
432	Selenium is	A. Insulator is dark B. Insulator in light C. Conductor in dark D. Semi conductor in dark
433	In photocopier, then drum is coated with layer of.	A. Aluminium B. Copper C. Selenium D. silver
434	Which one is photo conductor.	A. Copper B. Selenium C. Mercury D. Aluminium
435	SI unit of electric flux is.	A. NmC¹ B. Nm⁻¹ C¹ C. Nm²C⁻¹ D. Nm³C²
436	A changing electric flux creates.	A. Electric fields B. Gravitational C. Magnetic field D. Electric charge

		D. Electric charge
437	For computation of electric flux, the surface area should be.	A. Parallel B. Flat C. Curved D. Spherical
438	The electric flux through closed surface depends upon	A. Charge B. Medium C. Geometry D. Charge and Medium
439	Total flux through a closed surface depends on.	A. Shape of surface B. Medium only C. Charge enclosed only D. Charge and Medium
440	Gauss's law can only be applied to.	A. A curved surface B. A flat surface C. A closed surface D. A surface of any shape
441	Intensity of field inside a hollow charged sphere will be.	A. Negative B. Unaffected C. Zero D. Maximum
442	The negative of the potential gradient is	A. Electrostatic force B. Electromotive force C. Potential difference D. Electric field intensity
443	Two opposite point charge of same magnitude separated by distance 2d, electric potential mid way between them is.	A. 1 V B. 2 V C. Zero D. V/2
444	The work done is bringing a unit positive charge from infinity to that point in an electric field is called.	A. Potential B. Potential difference C. Absolute potential D. All of these
445	An ECG records the _____ between points on human skin generated by electric process i the heart.	A. Heart beat B. Pulse rate C. Pressure D. Voltage
446	Special organs called ampullae of lorenzenite are present in.	A. Bats B. Cats C. Dogs D. Sharks
447	If a charged body is moved against the electric field it will gain.	A. P.E. B. K.E. C. Mechanical energy D. Electrical potential energy
448	The absolute electric potential at a point distance 20 cm from a charge of 2 uC is.	A. 9 x 10² V B. 9 x 10³ V C. 9 x 10⁴ V D. 9 x 10 ⁵ V
449	Electro encephalon graph is the diagnostic test for the working of.	A. Eye B. Heart C. Brain D. Lungs
450	Electron volt is the unit of.	A. Potential B. Potential difference C. Electric current D. Electric energy
451	One electron volt is equal to.	A. 1.6 x 10⁻¹⁹ Joule B. 1.6 x 10⁻¹⁹Coulomb C. 1.6 x 10⁻¹²N D. 1.6 x 10¹⁸Joule
452	The amount of energy equal to 1.6×10^{-18} J is called.	A. One volt B. One milli volt C. One electron volt D. One mega electron volt
453	Charge on electron is	A. 1.6 x 10⁻¹⁹ C B. 1.6 x 10¹⁹C C. 1.6 x 10⁻¹⁷C D. 1.6 x 10¹⁷C
454	The force of Neutron due to field of 10^2 N/C is.	A. 1.6 x 10⁻¹⁷N B. 1.6 x 10⁻¹⁹N C. Zero

		C. Zero D. 1.6 x 10⁻²¹N
455	In Millikan's oil drop experiment a charged particle of mass 'm' is in equilibrium in an will	A. Zero B. g/2 C. g D. 2g
456	Farad is defined as	A. "Coulomb/Volt B. Ampere /Volt C. Coulomb /Joule D. Volt/Coulomb
457	A capacitor stores energy in the form of.	A. Magnetic field B. Heat energy C. Electrical energy D. Mechanical energy
458	Charge carriers in electrolytes are.	A. Protons B. Electrons C. Holes D. Positive and Negative ions
459	A capacitor is perfect in insulator for.	A. Alternating current B. Sparking current C. Eddy current D. Direct current
460	Coulomb /volt is called.	A. Farad B. Ampere C. Joule D. Henry
461	Which material should be inserted between the plates of a capacitor in order to increase its capacitance.	A. Copper B. Mica C. Iron D. Tin
462	The net charge on a capacitor magnitude of charge of charge	A. Infinity B. 2 q C. Q/2 D. Zero
463	If the separation between the plates of a capacitor is doubled then its capacitance become.	A. Double B. Half C. One fourth D. Three times
464	Capacitance of a capacitor does not depend upon.	A. Distance between plates B. Area of plates C. Electric field between plates D. Medium between plates
465	Presence of dielectric between two charges always.	A. Reduces the electric force B. Enhance the electric force C. Does not effect electric force D. Double the electric force
466	The capacitance of a capacitor depends upon.	A. Thickness of plates B. Charges on the plates C. Voltage applied D. Geometry of the capacitor
467	Due to polarization, electric field E.	A. Increase B. Decrease C. First increases then decreases D. Remain same
468	The electric potential at a mid point in an electric dipole is.	A. 0 V B. 0.5 V C. 1 V D. 1.5 V
469	When some di electric is inserted between the plates of a capacitor, then capacitance.	A. Decreases B. Increases C. Becomes zero D. Becomes infinity
470	If the potential difference across two plates of capacitor is doubled, then energy stored in it will be.	A. Two times B. Eight times C. Four times D. Remain same
471	The product of resistance and capacitanc eis.	A. Velocity B. Force C. Acceleration D. Time
		A. Charge

472	The quantity time constant RC has units of.	B. Time C. Capacitance D. Resistance
473	if time constant in RC series circuit is small, then capacitor is charged or discharged.	A. Slowly B. Rapidly C. At constant rate D. Intermittently
474	A charged conductor has charge on its.	A. Inner surface B. Outer surface C. Middle surface D. Surrounding space
475	Ampere second stands for the unit of.	A. Charge B. emf C. energy D. Power
476	The potential difference between the head and tail of an electrical to	A. 600 Volt B. 700 Volt C. 800 Volt D. 900 Volt
477	A battery move a charge of 40 C around a circuit at constant rate in 20 Sec. The current will be.	A. 2 A B. 0.5 A C. 80 A D. 800 A
478	If 1 x 10^7 electrons passes through a conductor in 1.0 micro second , then the current is.	A. 2 A B. 1.6 A C. 2.6 x 10⁻⁶ A D. 1.6 x 10⁻⁶ A
479	Drift velocity of electrons is.	A. 10⁻¹ m/s B. 10⁻² m/s C. 10⁻³ m/s D. 10³ m/s
480	the current which flows from a point at higher. potential to point at lower potential is called.	A. Electric current B. Conventional current C. Either of these D. None of above
481	By increasing the temperature of conductor, the flow rate of charges.	A. Increase B. Remains constant C. Decreases D. Changes exponentially
482	5 A of current flows through a conductor in 2 minutes, charge in the wire is.	A. 500 C B. 600 C C. 400 C D. 10 C
483	Heat generated by a 40 W bulb in one hour is.	A. 140 J B. 1440 J C. 14400 J D. 144000 J
484	The head produced by the passage of current through a resistor is.	A. H= I²Rt B. H = IR²t C. H = 1/Rt D. H = I²/Rt
485	Magnetic effect of current is used in.	A. Toaster B. Electric iron C. Electric motor D. D.C. Battery
486	For ohmic device the graph between V and I is.	A. A straight line B. Curve C. Hyperbola D. Parabola
487	Two resistance of 2 Ohm each are connected in parallel combination equivalent resistance will be.	A. 4 Ohm B. 2 Ohm C. 1 Ohm D. 8 Ohm
488	One ohm is equal to	A. VC-1 B. CV-1 C. AC-1 D. VA⁻¹
489	The current flowing through each resistor of equal resistance in parallel combination is.	A. Same B. Different C. Zero D. Infinite

490	The current through a resistance of 100 Ohm when connecting across a source of 220 V is.	A. 22000 A B. 22 A C. 2.2 A D. 0.45 A
491	When a wire of length 'l' and resistance R is cut into two equal parts then resistivity of each part.	A. is doubled B. Remains the same C. Is halved D. Is one fourth
492	Specific resistance of a material depends upon.	A. Length B. Area C. Temperature D. Both A and B
493	The unit of temperature co efficient of resistivity is.	A. Ohm -m B. K-1 C. K D. Ohm
494	The reciprocal of resistance is called.	A. Capacitance B. Resistance C. Conductance D. Inductance
495	mho -m-1 is the unit of.	A. Resistance B. Resistivity C. Conductance D. Conductivity
496	The SI unit of resistivity is.	A. Ohm m-2 B. Ohm m-1 C. Ohm m D. Ohm
497	Resistivity at a given temperature depends upon.	A. Area of cross section B. Length C. Nature of material of conductor D. Both length and area
498	A substance having the negative temperature co efficient of resistivity out of the following is.	A. Carbon B. Iron C. Tungsten D. Gold
499	A certain wire has a resistance R, the resistivity of an other wire of an identical material with the first, except for twice its diameter is.	A. 1/4 R B. 4R C. 2R D. Same as R
500	Colour codes are used to calculate the.	A. Nature of resistor B. Numerical value of resistance C. Potential difference D. Current
501	In carbon resistors, then value of Blue colour is.	A. 6 B. 7 C. 8 D. 9
502	If the resistance of 500 Ohm have fourth band of silver colour then its upper maximum resistance will be.	A. 600 Ohm B. 550 Ohm C. 450 Ohm D. 400 Ohm
503	Resistance tolerance for gold colour is.	A. 50% B. 30% C. 20% D. 5%
504	The thermistors convert changes of temperature into.	A. Light energy B. Electric voltage C. Heat D. Sound
505	A rheostat can operate as.	A. Amplifier B. Potential divider C. Oscillator D. Transformer
506	Heat sensitive resistors are called.	A. resistors B. Capacitor C. Thermistors D. Inductors
507	Resistance tolerance of silver band is.	A. 10% B. 6% C. 7% D. 5%

508	What is the resistance of carbon resistor which has band brown black brown.	A. 100 Ohm B. 1000 Ohm C. 10 Ohm D. 1.0 Ohm
509	Which one of the following bulbs has the least resistance.	A. 100 W B. 200 W C. 500 W D. 1000 W
510	An ideal current source shall have resistance	A. Zero B. Finite but not zero C. Infinite D. Depend upon requirement
511	Kirchhoff's first rule is the manifestation of the law of conservation of.	A. Mass B. Charge C. Energy D. Momentum
512	Kirchhoff's voltage rule is a way of stating conservation of.	A. Mass B. Charge C. Energy D. Momentum
513	Potentiometer is used to.	A. Compare emf of two cells B. Detect internal resistance of cell C. Measure P.D. D. All of these
514	A Current flowing towards the reader is denoted by.	A. Cross B. a bracket C. A dot D. Positive sign
515	The SI unit of E is NC-1 and that of B is Na-1 m-1 then the unit of E/B is.	A. ms-2 B. ms C. ms⁻¹ D. m-1s-1
516	Write the SI unit of magnetic flux.	A. Tesla B. Weber C. Weber m-2 D. Tesla m2
517	Two parallel wires carrying currents in the opposite direction.	A. Repel each other B. Attract each other C. Have no effect upon each other D. They cancel out their individual magnetic fields.
518	A dot represents the direction of magnetic field.	A. Out of page B. Into the page C. Tangent to page D. Parallels to page
519	___ is correct relation.	A. IT = 10⁻⁴G B. IT = 10⁴ G C. IT = 10² G D. IT = 10⁻² G
520	The SI Unit of magnetic induction is.	A. Weber B. Tesla C. Gauss D. Newton
521	The magnetic force is simply a	A. Reflecting force B. Deflecting force C. Restoring force D. Gravitational force
522	A charged particle enters in a strong magnetic field its K.E.	A. Remain constant B. Increases C. Decreases D. Increases then decreases
523	Magnetic lines of force are.	A. Imaginary B. Real C. Perpendicular D. In phase with electric lines of force
524	A current carrying conductor experience maximum magnetic force in a uniform magnetic field when it is placed.	A. Perpendicular to field B. Parallel to field C. At an angle of 60 ^o to the field D. None of these
525	A positive charge is moving towards an observer, The direction of magnetic	A. Toward right B. Anti clockwise

	induction will be.	C. Clockwise D. Toward left
526	The SI unit of magnetic induction 'B' Tesla is equal to.	A. NA-1m-1 B. Nam-1 C. NA-1 m D. Na2m-1
527	The SI unit of magnetic permeability is.	A. WbA-1m-1 B. Wbm-2 C. WbmA-1 D. WbAm-1
528	Magnetic flux density is measured in	A. Weber B. Weber/m2 C. Tesla -m D. Gauss
529	The SI unit of magnetic induction Tesla is equal to	A. N-1 Am B. NA m2 C. NA-1n2 D. NA-1m-1
530	Magnetic induction can be measured in units of.	A. Tesla B. Gauss C. Weber/m2 D. All of the above
531	The SI unit of flux density is.	A. NA-1 m2 B. NA-1 m-1 C. NAm-1 D. NA-1 m
532	If the length and number of turns of a solenoid are doubled strength of magnetic field with.	A. Be doubled B. Become half C. Not change D. Be four time
533	If the number of turns become double but length remain same, then magnetic field in the solenoid become.	A. Half B. Double C. Remain same D. Zero
534	Energy stored per uint volume inside a solenoid is called as	A. energy density B. Electric flux C. Work D. Volume charge density
535	Magnetic flux density at a point due to current carrying coil is determined by	A. Ampere's law B. Faraday's law C. Lenz's law D. Gauss's law
536	In current carrying long solenoid the magnetic field produced does not depend upon.	A. The radius of solenoid B. Number of turns per unit length C. Current flowing through solenoid D. All of the above
537	If the length of solenoid is doubled but N same, B inside the solenoid becomes.	A. Half B. Doubled C. One fourth D. Four times
538	For a current carrying solenoid the term 'n' has unit as.	A. No unit B. m⁻¹ C. m⁻² D. m-3
539	If current flowing through a solenoid becomes four times, then magnetic field inside becomes.	A. two times B. three times C. four times D. Half
540	Force on a charged particle is zero when projected at angle with magnetic field.	A. 0 ^o B. 90^o C. 180^o D. 270^o
541	In current carrying long solenoid the magnetic field produced does note depend upon	A. The radius of solenoid B. Number of turns per unit length C. Current flowing through solenoid D. All of above
542	If a charge is at rest in a magnetic field then force on charge is	A. Zero B. Double C. One fourth D. Four times
		A. Speed

543	A charged particle having charge 'q' is moving at right angle to magnetic field. The quantity which varies is.	A. Speed B. Kinetic energy C. Path of motion D. angular velocity
544	The sum of electric and magnetic force is called.	A. Maxwell force B. Lorentz force C. Newton's force D. Centripetal force
545	When a charge is projected perpendicular to a uniform magnetic field, tis path is	A. Spiral B. Helix C. Ellipse D. Circular
546	The e/m of a neutron is	A. Less than electron B. The same as electron C. Zero D. Greater than election
547	An electron enters the magnetic field at right angle from left, B is into paper. The electron will be deflected.	A. upward B. To ward right C. Down ward D. Toward left
548	The value of e/m is smallest for	A. Proton B. Electron C. Beta particle D. Positron
549	Grid in cathode ray oscilloscope controls.	A. Number of electron B. Temperature of filament C. Frequency of electron D. Energy of electrons
550	Brightness of screen of CRO controlled by	A. Grid B. Filament C. Anode D. Cathode
551	The brightness of the spot of CRO screen is controlled by.	A. Anode B. Cathode C. Grid D. Deflecting plates
552	Cathode ray oscilloscope works by deflecting a beams	A. Neutrons B. Protons C. Electrons D. Positron
553	The function of three anodes a C.R.O is	A. To accelerate electrons only B. To focus the electrons only C. To control the brightness of spot on screen D. To accelerate and focus the electrons
554	Torque is produced in a current carrying coil when it is placed in a	A. Magnetic field B. Electric field C. Gravitational field D. Nuclear field
555	Sensitivity of a galvanometer can be increased by	A. Decreasing the value of torsional couple B. Decreasing number of turns C. Decreasing area of plane of coil D. Decreasing magnetic field
556	The sensitivity of galvanometer directly depends upon	A. Magnetic field B. Area of coil C. Both a and b D. None of a, b, c
557	In order to increase sensitivity of galvanometer the value of C may be	A. Increase B. Decrease C. Neither increase nor decrease D. Remain same
558	The effective way to increase the sensitivity of moving coil galvanometer is.	A. Increase the area of coil B. Increase the number of turn C. Increase the magnetic field D. Increase the value of constant C
559	The sensitivity of galvanometer is given by	A. CAN/B B. C/BAN C. BAN/C D. BN/CA
560	In order to measure potential difference voltmeter is always connected in.	A. Series B. Parallel C. Both a and b D. Neither in series nor in parallel

561	When Ohm meter gives full scale deflection it indicates.	A. Zero resistance B. Infinite resistance C. Small resistance D. Very High resistance
562	Galvanometer is sensitive when C/BAN is	A. zero B. Large C. small D. Negative
563	A sensitive galvanometer is	A. Unstable B. Stable C. Moderate D. Both B and C
564	A battery is used in	A. ohmmeter B. Ammeter C. Galvanometer D. Voltemeter
565	Current passing through the coil of galvanometer	A. CO/BAN B. CoN /BA C. NAB/CO D. AN/BCO
566	A device used for detection of current is called.	A. Inductor B. Voltmeter C. Capacitor D. Galvanometer
567	The galvanometer can be made sensitive by making the factor BAN/C	A. Large B. Small C. Constant D. Zero
568	If a low resistance is connected parallel to a galvanometer then galvanometer is converted.	A. Ammeter B. Voltammeter C. Ohmmeter D. Multimeter
569	To convert a galvanometer into a volt meter a high resistance is connected.	A. In series B. In parallel C. In perpendicular D. Along tangent
570	A voltmeter is always connected in	A. Parallel B. Series C. Perpendicular D. Straight line
571	Which one of the following resistance is used to convert a Galvanometer into an ammeter.	A. High resistance B. Low resistance in series with galvanometer C. Shunt D. High resistance in series with galvanometer
572	Shunt resistance is	A. Low resistance B. Zero resistance C. High resistance D. Impedance
573	Which one has the least resistance.	A. Galvanometer B. Ammeter C. Ohm meter D. Volta meter
574	Useful device to measure resistance, current and voltage is an electronic instrument called.	A. Volt meter B. Ammeter C. Ohmmeter D. Digital Multimeter
575	An AVO meter can also be called as.	A. Digital multimeter B. Digital voltmeter C. Digital ammeter D. Digital ohm meter
576	If we make magnetic field stronger the value of induced current is.	A. Decreased B. Increased C. Vanishes D. Remain constant
577	Electromagnetic induction obeys law of conservation	A. Charge B. Energy C. Momentum D. Mass
578	When a conductor moves across a magnetic field an emf is set up this emf is called.	A. Variable emf B. Constant emf C. Back emf

		D. Induced emf
579	The motional emf developed in a conduction depends upon.	A. Length B. Orientation C. Magnetic field D. All of the above
580	The motional emf is give by	A. qvB B. IBL C. eBL D. vBL
581	The rod of unit length is moving at 30 o through a magnetic field of 1 T. If the velocity of rod is 1 m/s, then induced emf in the rod will be given by	A. I V B. 0.25 V C. 0.5 V D. 0.6 V
582	A metal rod of 1 m is moving at a speed of 1 ms-1 in a direction making an angle 30 ^{o} with 0.5 T magnetic field . The emf produced is.	A. 0.25 N B. 2.5 N C. 0.25 V D. 2.5 V
583	The motional emf depends upon the	A. Length of conductor B. Speed of conductor C. Strength of magnet D. All of these
584	The negative sign with induced emf in Faraday's law is in accordance with	A. Lenz's law B. Amperes law C. Boyle's law D. Gauss law
585	When a coil is moved in a uniform magnetic field, an induced emf is produced due of change in	A. Flux density B. Electric flux C. Magnetic flux D. Magnetic field strength
586	EMF is induced due to change in	A. Charge B. Current C. Magnetic flux D. Electric field
587	Lenz's law is a consequence of the law of conservation of	A. Charge B. Momentum C. Energy D. Angular momentum
588	The Lenz's law fulfils.	A. Law of conservation of energy B. Law of conservation of charge C. Law of conservation of momentum D. Kirchhoff's law
589	Lenz's law deals with	A. Magnitude of emf B. Direction emf C. Direction of induced current D. Resistance
590	Energy density in an inductor is.	A. Directly proportional to magnetic field B. Directly proportional to square of magnetic field C. Inversely proportional to magnetic field D. Inversely proportional to square of magnetic field
591	Mutual induction play role in.	A. Generator B. D.C. motor C. Galvanometer D. Transformer
592	The mutual inductance of the coils depends upon.	A. Stiffness of the coils B. Density of coils C. Material of coils D. Geometry of the coils
593	SI unit of hennery which is.	A. VSA-1 B. VS-1 A C. VS-1A-1 D. VSA
594	Mutual induction has a practical role in the performance of the.	A. Radio choke B. Transformers C. A.C. Generator D. D.C. Generator
595	The mutual inductance between two coils depends upon their	A. Size B. Core material C. Size, core material and separation D. Separation
		A. Motional emf B. Constant emf

596	The self induction emf is some times called.	C. Back emf D. Variable emf
597	The induction can be increased by winding the wire around a core made of.	A. Copper B. Silicon C. Iron D. Aluminum
598	By winding the coil around a less magnetic core, self induction.	A. Will increase B. Will decrease C. Remain same D. First increase then decrease
599	Unit of self inductance is	A. Weber B. Tesla C. Henry D. Farad
600	Self induction does not depend on	A. Number of turns of the coil B. Area of cross section of the core C. Nature of material of the core D. Current through inductor
601	B2/2p is the expression of.	A. Lenz's law B. Magnetic energy C. Magnetic energy density D. Back emf
602	Energy stored in inductor is.	A. 1/2 L I² B. 1/2 LI C. 1/2 L2I D. 1/2 L2I2
603	If magnetic field is doubled then magnetic energy density becomes.	A. Four times B. Two times C. Three times D. Six times
604	In case of inductor , energy is stored in the	A. Electric field B. Magnetic field C. Potential field D. Gravitational field
605	If 10 A current passes through 100 mH inductor, then energy stored is.	A. 100 J B. 5 J C. 20 J D. Zero
606	A 50 mH coil carries a current of 2.0 a , then energy stored in tis magnetic field is.	A. 0.1 J B. 10 J C. 100 J D. 1000 J
607	A.C. Generator based upon the	A. Lenz's law B. Maxwell's relation C. Faradays law of electromagnet induction D. Mutual induction
608	Which one is not present in A.C. generator.	A. Armature B. Magnet C. Slip rings D. Commutator
609	If speed of rotation of a generator is doubled the output voltage will be.	A. Remain same B. Double C. Four time D. One half
610	Induced emf in A.C. generator can be increased by	A. Decreasing area of coil B. Decreasing magnetic field C. Increasing area of coil D. Slowing down speed of coil
611	In A.C. inductor behaves as	A. Capacitor B. Resistor C. Commutator D. Transistor
612	In A.C. generator , when plane of coil is perpendicular to magnetic field, then output of generator is.	A. NwAB B. 2pi f C. Maximum D. Zero
613	Commentator was invented by	A. Henry B. Ousted C. Maxwell D. William sturgeon

614	In D.C. generator, split rings act as.	A. Capacitor B. Commutator C. Resistor D. Inductor
615	A simple device that prevents the direction of current from changing is called.	A. Commutator B. Rotor C. Armature D. Detector
616	The only difference between the construction of D.C and A.C is.	A. Carbon burshes B. Coil C. Commutator D. Magnetic field
617	If the coil is wound on iron core, the flux through it.	A. Decreases B. Becomes zero C. Increases D. Remains constant
618	The device in the circuit that consume electrical energy are known as.	A. Dissipaters B. Generator C. Load D. Motors
619	Which of the following converts electrical energy into mechanical energy.	A. Transformer B. A.C. generator C. D.C. generator D. D.C. motor
620	The winding of the electromagnet in motor are usually called.	A. Magnetic coils B. Field coils C. Electric coils D. electric o electric coils
621	split rings are used in	A. A.C. generator B. A.C. motor C. Transformer D. D.C. motor
622	The jerks in D.C. motor are created by the use of.	A. Armature B. Commutators C. Split rings D. Source of emf
623	Output of D.C. motor is	A. A.C. energy B. Mechanical energy C. Chemical energy D. D.C. energy
624	When a motor is over loaded then the magnitude of back emf.	A. Increases B. Decreases C. Remain constant D. Zero
625	When the back emf is zero, its draws.	A. Zero current B. Minimum current C. Maximum current D. Steady current
626	With the speed of motor, magnitude of back emf	A. Remain same B. Increase C. Decrease D. First increases then decreases
627	When motor is just started, back emf is almost.	A. Maximum B. Zero C. Minimum D. Infinite
628	When back emf in motor is zero, it draws.	A. Zero current B. Minimum current C. Maximum current D. Steady current
629	The working principle of transformer is.	A. Self induction B. Faraday's law C. Mutual induction D. Electromagnetic induction
630	the core of transformer is laminated so reduce.	A. Magnetic loss B. Hysteresis loss C. Eddy current loss D. Electric loss
631	The application of mutual induction is a.	A. D.C. motor B. Radio C. Television D. Transformer

		D. Transformer
632	Transformer is used to change	A. Electric power B. Magnetic field C. Alternating voltage D. Phase of A.C.
633	Step up transformer is used.	A. Step up D.C. voltage B. Step up A.C. voltage C. Step up both A.C and D.C. D. Step up A.C. current
634	For step down transformer	A. Ns>Np B. Np > Ns C. Ns = Np D. Ns > > > Np
635	Eddy current is one cause energy loss in	A. A.C. generator B. Transformer C. D.C. motor D. D.C. generator
636	A real transformer does not change.	A. Voltage level B. Current level C. Power level D. Frequency
637	Efficiency of transformer does not affected by	A. Input voltage B. Core of transformer C. Insulation between sheet D. Resistance of coils
638	A step up transformer is used 120 V line to provide 240 V. If primary coil has 100 turns the number of turns is secondary is.	A. 50 B. 100 C. 150 D. 200
639	If D.C. input for step up transformer, the output is	A. Zero B. High C. Low D. May be high or low
640	If a step up transformer were 100% efficient the primary and secondary winging's would have the same.	A. Current B. Power C. Voltage D. Direction of winding
641	The illustration of the phenomenon of mutual induction is in the device of	A. Transformer B. Inductor C. A.C. Generator D. Ammeter
642	Main reason for world wide use of A.C. is	A. It is cheaper B. Transmitted C. Botha a and b D. Reaches in short time
643	During each cycle A.C. voltage reaches a peak value.	A. Once B. Twice C. Thrice D. Four time
644	The mean value of A.C. in a cycle is.	A. 1 B. 0 C. I2 D. Nil
645	The highest value reached by the voltage or current in one cycle is called.	A. Peak ot peak value B. Peak value C. Instantaneous value D. Root mean square value
646	The main use of A.C is	A. Minimum line losses B. Long distance transmission C. Stepping up to required voltage only D. Steeping down to required voltage only
647	The wave form of alternating voltage is a	A. Cotangent curve B. Cosine curve C. Sine curve D. Tangent curve
648	In Pakistan the frequency of A.C. supply is.	A. 50 Hz B. 60 Hz C. 45 Hz D. 70 Hz
649	Average value of current and voltage over a complete cycle is	A. Positive B. Negative

649	Average value of current and voltage over a complete cycle is.	C. Zero D. Infinite
650	The most common source of an A.C. Voltage is.	A. Motor B. Cell C. Generator D. Thermo couple
651	The peak value of A.C source is 20 A, then its rms value will be.	A. 14.1 A B. 10 A C. 20 A D. 28.2 A
652	The sum of positive and negative peak value called.	A. R.M.S. value B. P-P value C. Peak value D. Average value
653	An A.C. voltmeter reads 220 V, its peak value will be	A. 225 V B. 240 V C. 311.12 V D. 300 V
654	The basic circuit element in A.C. circuit which controls current.	A. Resistor only B. Capacitor only C. Inductor only D. All of these
655	The Basic circuit element in a D.C. circuits which controls the current and voltage is	A. Resistor B. Inductor C. Capisitor D. Transistor
656	Phase difference between V and I of an A.C through resistor is.	A. Zero Degree B. 90 ^o C. 80^o D. 120^o
657	In case of A.C. through resistor V and I are	A. At 0^o with each other B. At 180 ^o with each other C. At 90^o with each other D. At 270 ^o with each other
658	Direct current can not flow through.	A. Inductor B. Resistor C. Transistor D. Capacitor
659	The flow of D.C current is opposed by	A. Resistor B. Induction C. Capacitor D. All of these
660	In the capacitive circuit of A.C. quantity when q= 0 the slope of q-t curve is.	A. Maximum B. Minimum C. Zero D. Negative
661	SI unit of reactance is.	A. Ohm B. Mho C. Farad D. Henry
662	The slope of q-t curve at any instant of time gives.	A. Voltage B. Current C. Charge D. Botha a and b
663	100 micro F capacitor is connects to an AC voltage 24 V and frequency 50 Hz. The reactance of the capacitor is.	A. 30.8 Ohm B. 31.8 Ohm C. 34.8 Ohm D. 40 Ohm
664	At high frequency the value of reactance of capacitor will be.	A. Small B. Zero C. Large D. Infinite
665	If the frequency of A.C. supplied is doubled then the capacitive reactance becomes.	A. Half B. Two C. Four times D. One fourth
666	In pure capacitor A.C. circuit, the current I and charge q are.	A. In phase B. Out of phase C. Parallel to each other D. None of above
		A. Inductor

667	The device which allows only the continuous flow of AC through it is.	B. Battery C. Thermistor D. Capacitor
668	In a pure inductive A.C. circuit the current.	A. Lags behind voltage by 90 ^o B. Leads the voltage by 90 ^o C. In phase with voltage D. Leads the voltage by 270 ^o
669	The phase difference between current and voltage in an inductive circuit is.	A. zero B. 90 ^o C. 180 ^o D. 45^o
670	An in cudutor may store energy in	A. Its magnetic field B. Its coil C. Its electric field D. A neighboring circuit
671	An inductor of 1 henry inductance has a reactance 500 ohms, then the frequency required is approximately	A. 50 Hz B. 100 Hz C. 80 Hz D. 120 Hz
672	when an inductor comes close to a metallic object, its inductance is.	A. Decreased B. Increased C. Becomes half D. Becomes 4 times
673	The device which allows only the flow of D.C. is.	A. Capacitors B. transformer C. Inductor D. Generator
674	The inductive reactance of a coil is direction proportional to.	A. Inductance B. Resistance C. Frequency of A.C. D. Both frequency of A.C. and inductance
675	The combined effect of resistance and reactance is knows as.	A. Inductance B. Conductance C. Resistance D. Impedance
676	When 10 V are applied to an A.C circuit, the current flowing in it is 100 mA. It impedance is.	A. 100 Ohm B. 10 Ohm C. 1000 Ohm D. 1 Ohm
677	The unit of impedance is.	A. Henry B. Hertz C. Ampere D. Ohm
678	The phase angle of a series RLC circult at resonant frequency is	A. 1/2 B. sigma C. Zero D. sigma /4
679	At resonance, the behavior of R-L-C series circuit is.	A. Resistive B. Capacitive C. Inductive D. Modulative
680	Power dissipated in a pure inductor is.	A. Large B. Small C. Infinite D. Zero
681	The expression P = VI hold only when current and voltage are.	A. In phase B. Out of phase C. At right angle to each other D. At angle of 120 ^o
682	Which consumes small power.	A. Inductor B. Resistor C. Motor D. All of these
683	$X_1$is low for low frequency Fy but Xc is.	A. Zero B. Low C. High D. Same is H
684	At resonance frequency, the impedance of RLC series circuit is.	A. Maximum B. Minimum C. Zero D. Infinite

685	The power factor of RL series circuit is.	A. 0 B. 1 C. Less then 1 D. More than one
686	In RLC series circuit at resonance the phase difference between capacitor and inductor reactance is.	A. 90^o B. 270^o C. 0^o D. 180^o
687	The circuit which compares the two voltages is.	A. LDR B. Sensor C. Comparator D. Logic gate
688	A resistance frequency the impedance of RLC parallel circuit is.	A. Zero B. Infinite C. Maximum D. Minimum
689	In RLC circuit the energy is dissipated in	A. R only B. R and L C. R and C D. L and C
690	In three phase A.C. generator the phase difference between each pair of coil is.	A. 45^o B. 90^o C. 120^o D. 60^o
691	In three phase A.C supply coils are inclined at an angle of.	A. 0^o B. 90^o C. 120^o D. 80^o
692	In three phase voltage across any two lines is about.	A. 220 V B. 230 V C. 400 V D. 430 V
693	In metal detector, we use.	A. L-C circuit B. R-L circuit C. R-C circuit D. RLC series circuit
694	Choke consumes extremely small	A. Current B. Charge C. Power D. Potential
695	Resistance of choke is	A. zero B. Large C. Very small D. Infinite
696	The velocity of an oscillating charge as it moves to and fro along a wire is.	A. Changing B. Constant C. Infinite D. zero
697	Electro magnetic waves emitted from radio antenna are.	A. Stationary B. Longitudinal C. Transvers D. Both a and b
698	Electron vibrating 94,000 times each second will produce radio waves of frequency.	A. 94 Hz B. 940 HZ C. 94 Hz D. 490 Hz
699	The A.M. transmission frequencies range from	A. 540 KHz to 1000 KHz B. 540 Khz to 1600 KHz C. 520 KHz TO 1600 KHz D. 520 KHz TO 1400 KHz
700	High frequency radio wave is called as	A. Fluctuate B. Carrier wave C. Matter wave D. Mechanical wave
701	In modulation, low frequency signal is known as	A. Carrier wave B. fluctuated signal C. Modulated carrier signal D. Modulation signal
702	In frequency modulation which factor changed.	A. Amplitude of charge carriers B. Frequency of charge carriers C. Amplitude of signal

		D. Frequency of signal
703	Which one is not a crystalline solid.	A. Zinc B. Copper C. Nylon D. None of these
704	Which one of the following is crystalline solid.	A. Zirconia B. Glassy solid C. Natural rubber D. Poly strene
705	There are different crystal systems. The number of these crystal system is.	A. 3 B. 4 C. 5 D. 7
706	The number of crystal system are	A. Three B. Five C. Seven D. Fifteen
707	The crystalline structure of NaCl is.	A. Cubical B. Hexagonal C. Tri gonal D. Tetragonal
708	the substances in which the atoms do not form magnetic dipoles are called.	A. Diamagnetic B. Para magnetic C. Ferro magnetic D. Crystal
709	A solid in which there is not regular arrangement of molecules is called.	A. Glassy solid B. Amorphous solid C. Crystalline solid D. Both a and b
710	In glass, molecules are irregularly arranged so it is known as.	A. Solid B. Liquid C. Solid liquid D. Gas
711	Which one of the following is polymeric solids	A. Glass B. Nylon C. Copper D. Zinc
712	The SI unit of stress is same as that of.	A. Pressure B. Force C. Momentum D. Work
713	Young's modulus for water's is	A. Zero B. 1 C. 2 D. 3
714	Out of the following which material is brittle.	A. Wrought iron B. Copper C. Tungsten D. High steel carbon
715	The ability of a body to return to its original shape is called.	A. Strain B. Stress C. Elasticity D. Plasticity
716	Which one of the following is ductile substance.	A. Copper B. Lead C. Wrought iron D. All of them
717	substance which undergo plastic deformation until they break are known as.	A. Brittle substances B. Ductile substance C. Non magnetic substance D. Magnetic substance
718	Substance which break just after the elastic limit is reached are called as.	A. Ductile substances B. Hard substances C. Britto substances D. Soft substances
719	Which of the following does not undergo plastic deformation.	A. Copper B. Wrought iron C. Head D. Glass
		A. Lead

720	Which one is not a ductile material	B. Steel C. Copper D. Wrought Iron
721	Example of ductile substance is.	A. Glass B. Wood C. Lead D. Oxygen
722	Glass and high steel carbon are example of.	A. Ductile substances B. Brittle substances C. Soft substances D. Hard substances
723	To get N-Type the Ge is doped with	A. Aluminium B. Arsenic C. Boron D. Indium
724	Which type of impurity is to be added to a pure semi conductor crystal to provide holes.	A. Monovalent B. Trivalent C. Tetravalent D. Pentavalent
725	In 'N' type material, the minority charge carriers are.	A. Free electrons B. Holes C. Protons D. Mesons
726	Donor impurities are	A. Germanium, silicon B. Indium, galium C. Antimony, arsenic D. Diamond, carbon
727	Which one is pentavalent impurity	A. Boron B. Gallium C. Antimony D. Indium
728	Which one pair belongs to acceptor impurity.	A. Aresincl, phosphorus B. Boron, gallium C. Arsenic, antimony D. Antimony, indium
729	A material which is insulator at 0 K and conduct at room temperature is.	A. Silver B. Lead C. Germanium D. Polythene
730	Minority carriers in P-Types , substances are.	A. Electrons B. Protons C. Holes D. Neutrons
731	The critical temperature of Aluminum is.	A. 3.72 K B. 1.18 K C. 7.2 K D. 8.2 K
732	The critical temperature of mercury is.	A. 1.18 K B. 4.2 K C. 3.72 K D. 7.2 K
733	In extrinsic semiconductors doping is of the order of.	A. 1 atom to 10⁴ B. 1 atom to 10⁶ C. 1 atom to 10⁸ D. 1 atom to 10³
734	After curie temperature.	A. Ferromagnetic B. Paramagnetic C. Magnetic D. Diamagnetic
735	The substance which atom cooperates with each other in such a way so as to exhibit a strong magnetic field is called.	A. Ferromagnetic B. Paramagnetic C. Diamagnetic D. Non magnetic
736	Soft magnetic material is	A. Sodium B. Steel C. Iron D. Copper
737	A solid having regular arrangement of molecules throughout its structure is called.	A. Amorphous solid B. Polymeric solid C. Crystalline solid D. Glassy solid

738	The most suitable metal for making permanent magnet is.	A. Iron B. Aluminium C. Steel D. Copper
739	Very weak magnetic field produced by brain can be detected by	A. MRI B. CAT scans C. Squid D. CRO
740	Which of the following has least hysteresis loop area.	A. Steel B. Wrought Iron C. Soft Iron D. Cobalt
741	Domains are existed in	A. Ferromagnetic materials B. Paramagnetic materials C. Semi conductors D. Diamagnetic materials
742	The potential barrier for silicon is.	A. 0.7 V B. 0.5 V C. 0.3 V D. 0.9 V
743	The potential difference across the depletion region of germanium is.	A. 0.3 V B. 0.5 V C. 0.7 V D. 0.8 V
744	Reverse current flows due to	A. Majority charge carriers B. Minority charge carriers C. Electrons D. Holes
745	When a PN-Junction is reverse biased the depletion region is.	A. Widened B. Narrowed C. Normal D. None of these
746	Which factor does not affect the conductivity of PN-Junction diode.	A. Doping B. Temperature C. Voltage D. Pressure
747	A diode characteristic curve is a plot between	A. Current and time B. Voltage and time C. Voltage and current D. Forward voltage and reverse voltage
748	A PN junction can not be sued a.	A. Rectifier B. Amplifier C. Detector D. LED
749	The ratio of potential barriers of Ge to Si at room temperatrue is.	A. 7:3 B. 1:3 C. 2:5 D. 3:7
750	Depletion region carries.	A. -ve charge B. +ve charge C. Ions D. No charge
751	A diode characteristics curve is a plot between	A. Current and resistance B. Voltage and time C. Voltage and current D. Current and time
752	_____ is the building block of every electronic circuit.	A. Semi conductor diode B. Resistor C. Capacitor D. Amplifier
753	Minimum number of semi conductor diodes required for full wave rectification are.	A. 1 B. 2 C. 3 D. 4
754	In full wave rectification number of diodes required are equal to.	A. 2 B. 3 C. 4 D. 5
755	During negative half cycle of A.c then p-n junction offers.	A. High resistance B. Low resistance C. No resistance

		D. All of these
756	For rectification we use.	A. Transformer B. Diode C. Choke D. Generator
757	The output voltage of a rectifier is.	A. Smooth B. Pulsating C. Alternating D. Per featly direct
758	Pulsating output of full wave rectifier can be made smooth by using circuit called.	A. Filter B. Amplifier C. Resistor D. Transistor
759	A.C. can be converted into D.C. by	A. An oscillator B. Detector C. An amplifier D. Rectifier
760	Rectification is the process of converting.	A. D.C. into A.C. B. A.C. in to D.C. C. Low signal to high D. High signal to low
761	Conversation of only one half of A.C. into D.C. is called.	A. Half wave amplification B. Wave amplification C. Half wave electrification D. Half wave rectification
762	In photovoltaic cell, current is directly proportional to.	A. Wavelength of light B. Intensity of light C. Energy D. Frequency of light
763	Light emitting diodes are made from semiconductors.	A. Silicon B. Germanium C. Carbon D. Gallium arsenide
764	A light emitting diode emits light only when	A. Reverse biased B. Forward biased C. Unbiased D. None of these
765	The colour of light emitted by a LED depends on.	A. It forward biased B. Its reverse biased C. Unbiased D. None of these
766	Photo diode is used for detection of.	A. Heat B. Magnet C. Current D. Light
767	the number of terminals in a semiconductor diode are	A. 2 B. 3 C. 4 D. 5
768	Which diode works at reverse biasing.	A. LED B. Photo voltaic cell C. Photo diode D. Silicon diode
769	A photo diode can turn its current ON and OFF in	A. Micro seconds B. Mega seconds C. Nano seconds D. Mili seconds
770	Photo diode detects.	A. Visible light B. Radio waves C. X rays D. All of them
771	The ratio Beta in transistor is called.	A. Voltage gain B. Emitter gain C. Current gain D. Nuclear gain
772	Transistor was discovered by	A. Young B. Curie C. John Bardeen D. Shale's
773	Transistors are made from	A. Plastics B. Metals

773	Transistors are made from	C. Insulator D. Doped semi conductors
774	The central region of a transistor is called.	A. Emitter B. Collector C. Base D. Neutral
775	Which component of the transistor has greater contrition of impurity.	A. Base B. Emitter C. Collector D. Emitter and collector
776	Doping is made comparatively larger in	A. Emitter B. Base C. Collector D. P -type semi conductor
777	The sensor of light is.	A. Transistor B. LED C. Diode D. Light dependent resistance
778	A device which converts low voltage or current to high voltage or current is called.	A. Transformer B. AC generator C. Amplifier D. Rectifier
779	The gain of transistor amplifier depends upon	A. Resistance connected with collector B. Resistance connected with base voltage C. Input voltage D. Output voltage
780	Greater concentration of impurity is added in.	A. Base B. Emitter C. Collector D. LED
781	The open loop gain of the amplifier is order of.	A. 10⁶ B. 10⁵ C. 10⁷ D. 10³
782	Output resistance of an op amp is	A. High B. Low C. Zero D. Equal to input resistance
783	The input resistance of an op amplifier is.	A. Low B. High C. Zero D. Equal to output resistance
784	The resistance between the inverting (-) and non inverting inputs is called Input resistance and is the order of.	A. Ohms B. Kilo Ohms C. Mega Ohms D. Thounds Ohms
785	LDR becomes necessary when op amp is used as a	A. Night switch B. Inverter C. Comparator D. Rectifier
786	The use of LDR is in the circuit of.	A. Logic gate B. Rectifier C. Oscillator D. High Switch
787	Automatic function of street light can be done by the use of.	A. Inductor B. Rectifier C. Comparator D. emf
788	For automatic Switching of streetlight, the op amplifier is used as.	A. Inductor B. Converter C. Comparator D. Thermistor
789	Which is not fundamental logic gate.	A. NOT B. AND C. OR D. NAND
790	Truth table of logic function.	A. Summarize its output values only B. Tabulates all its input conditions only C. Display all its input and output possibility D. Is not base on logic algebra
		A. Both inputs are zero

791	The output of two input is zero only when its.	A. Both inputs are zero B. Either input is zero C. Both inputs are one D. Either input is one
792	Logic gate can control some physical parameters like.	A. Temperature, Pressure B. Resistance, Inductance C. Capacitance, Impedance D. Current, voltage
793	The term invertor is used for.	A. NOR gate B. XNOR gate C. NAND gate D. NOT gate
794	A two inputs NAND gat with inputs a and b has an output '0' if.	A. B is zero B. A is zero C. Both A and B are 1 D. Both A and B are '0'
795	X=A+B is the mathematical notation for.	A. OR gate B. NOR gate C. NAND gate D. AND gate
796	The device which are required to convert various physical quantities into electric voltage are called.	A. Filters B. Rectifiers C. Amplifiers D. Sensors
797	Using relativistic effects the location of an air craft after an hour fight can be predicated about	A. 20 m B. 50 m C. 760 m D. 780 m
798	All motions are	A. Absolute B. Uniform C. Relative D. Variable
799	Internal frame is a frame is which	A. 1st law holds B. 2nd law holds C. 3rd law holds D. Kelvin's law holds
800	In 1905, the special theory of relativity was proposed by	A. Einstein B. Bohr C. Maxwell D. De Broglie
801	If an object moves with speed of light, its mass will be.	A. Zero B. Maximum C. Minimum D. infinity
802	Earth orbital speed is.	A. 10 km/s B. 20 km/s C. 30 km/s D. 40 km/s
803	The mass of an object will be doubled at speed.	A. 2.6 x 10⁸ m/s B. 1.6 x 10⁸m/s C. 2.6 x 10⁷m/s D. 3.6 x 10⁷ m/s
804	The special theory of relativity based on.	A. One postulate B. Two postulates C. Three postulates D. Four postulates
805	1 kg mass will be equivalent to energy.	A. 9 x 10⁸ J B. 9 X 10¹² J C. 9 X 10¹⁶ J D. 9 X 10¹⁹ J
806	By modern system of NAVSTAR, the speed any where on the earth can be determined to accuracy about.	A. 20 ms-1 B. 10 ms-1 C. 2 cms-1 D. 2 ms-1
807	Einstein was awarded Nobel prize in physics in	A. 1905 B. 1911 C. 1918 D. 1921
808	Number of electros emitted in photo electric effect depend upon.	A. Intensity of incident light B. Frequency of incident light C. Energy of incident light D. Wavelength of incident of light

809	The stopping potential for a certain metal is 10 volts. Thus work function for the cathode is.	A. 10 J B. 1.6 X 10⁻¹⁸ J C. 1.6 X 10⁻¹⁹ J D. 1.6 X 10³⁰ J
810	The energy of the photon of wavelength 500 nm is.	A. 3.10 eV B. 2.49 eV C. 1.77 eV D. 1.52 eV
811	Light of 4.5 eV is incident on a Cesium surface and stopping potential is 0.25 eV, maximum K.E. of emitted electron is.	A. 4.5 eV B. 4.25 eV C. 4.75 eV D. 0.25 eV
812	Pair production can take place only when energy of radiation is equal and greater than 1.02 MeV, thus correct option is.	A. X rays B. Gama rays C. Heat Radiation D. Ultraviolet rays
813	Photo electrons are emitted y using visible light when the metal is.	A. sodium B. Copper C. Nicked D. Cobalt
814	Compton effect proves.	A. Wave nature of radiation B. Wave nature of particle C. Dual nature of particle D. Particle nature of radiations
815	The quantity/factor h/m_oc has the dimensions of.	A. Length B. Time C. Mass D. Energy
816	Maximum Compton shift is observed at.	A. 30^oC B. 90^oC C. 45^oC D. 180^oC
817	In Compton scatting, the value of shift is equal to Compton's wavelength, when X-rays is scattered at the angle of.	A. 90^oC B. Zero C. 120^oC D. 45^oC
818	Disintegration of photon on striking a nucleus into an electron and positron is known as.	A. Annihilation of matter B. Compton effect C. Pair production D. Photo electric effect
819	The photon with energy greater than 1.02 MeV can interact with matter as.	A. Photoelectric effect B. Compton effect C. Pair production D. annihilation of matter
820	In an nihilation emitted photons moves in opposite directions to conserve.	A. Mass B. Charge C. Energy D. Momentum
821	Wave nature of light appears in	A. Pair production B. Compton effect C. Photo electric D. Interference
822	Which is the most refined form of matter.	A. Smoke B. Fog C. Light D. Electron
823	The wavelength associated with the protons moving at speed of 40 m/s is.	A. 7.20 nm B. 9.02 C. 15.7 nm D. 17.3 nm
824	Photodiode is used for wave nature of.	A. Light B. Thermal radiation C. Radi waves D. Sound waves
825	The principle regarding the dual nature of light was first discovered by	A. Heisenberg B. Compton C. J.J.Thomson D. De-Broglie
826	Application of wave like nature of particle is	A. Photodiode B. Optical microscope C. Electron microscope

		D. Compound microscope
827	Balmer series lies in region of electromagnetic spectrum.	A. Infrared B. Visible C. Ultraviolet D. Fra infrared
828	The shortest wave length is Bracket series has wave length.	A. 16/Rn B. Rn/16 C. 16 Rn D. 4 Rn
829	Balmer series lies in	A. Visible region B. Invisible region C. Ultraviolet region D. Infrared region
830	Which series lies in the ultraviolet region.	A. Balmer series B. Bracket series C. Ptund series D. Lyman series
831	For Paschen series, the value of 'n' starts from	A. 2 B. 4 C. 6 D. 8
832	Balmer Empirical formula explains the electromagnetic radiation of any excited atom in terms of their.	A. Energy B. Mass C. Wave length D. Momentum
833	The line radiations emitted from by hydrogen filled discharge tube can be analyzed into.	A. Band spectrum B. Line spectrum C. Continuous spectrum D. Absorption spectrum
834	First spectral series of hydrogen atom was discovered by	A. Lyman B. Rydberg C. Balmer D. Paschen
835	Which of the following series of hydrogen spectrum lies in ultra violet region.	A. Lyman sereis B. Paschen series C. Balmar series D. Bracket series
836	Hydrogen atom spectrum does not lie in	A. Ultraviolet region B. Visible region C. Infrared region D. X ray region
837	Paschen series lies in the	A. Far ultraviolet region B. Visible region C. Ultraviolet region D. Inferred region
838	The longest wavelength of Paschen series is.	A. 656 nm B. 1094 nm C. 1875 nm D. 2000 nm
839	The unit of Rh is.	A. ms-1 B. m C. m² D. m⁻¹
840	The radius of 10th orbit in hydrogen atom is.	A. 0.053 nm B. 0.53 nm C. 5.3 nm D. 53 nm
841	Earth orbital speed is	A. 10 km/s B. 20 km/s C. 30 km/s D. 40 km/s
842	The first orbit in the hydrogen atom has a radius.	A. 0.53 nm B. 0.053 nm C. 0.0053 nm D. 0.00053 nm
843	The energy of 4th Orbit in hydrogen atom is.	A. -2.51 eV B. -3.50 eV C. -13.60 eV D. -0.85 eV
		A. 0.106 nm

844	Radius of first orbit of an atom is r1= 0.053 nm, Radius of second orbit r2 will be.	B. 0.212 nm C. 0.053 nm D. 0.53 x 10^{-10} nm
845	If electron jumps from second orbit to first orbit in hydrogen atom it emits photon of.	A. 3.40 eV B. 10.20 eV C. 13.6 eV D. 3.8 eV
846	_____ has the largest de Broglie wavelength at same speed.	A. Proton B. Alpha particle C. Carbon atom D. Electron
847	We can find from de Broglie formula	A. Wavelength B. Amplitude C. Speed of wave D. Frequency of wave
848	The following gas was identified in the sun using spectroscopy	A. Hydrogen B. Helium C. Carbon D. Nitrogen
849	Radius of first Bohr's orbit is.	A. 0.053 nm B. 0.053 mm C. 0.053 micro meter D. 0.053 m
850	An electron in H -atom is excited from ground state n=4 , How many spectral lines are possible in this case.	A. 6 B. 5 C. 4 D. 3
851	In an electronic transition atom cannot emit.	A. Infrared radiations B. Visible radiations C. Ultraviolet radiations D. Gama radiations
852	Photons emitted in inner shell transition are.	A. Continuous X -rays B. Discontinuous X rays C. Characteristic X rays D. Energetic X rays
853	Production of x rays is reverse process of	A. Photo electric effect B. Compton effect C. An nihilation D. Pair production
854	Which is not true for X rays	A. X rays are not defected by electric field B. X rays are polarized C. X rays consist of electromagnetic waves D. X rays can be diffracted by grating
855	The rest mass x ray photon is	A. Infinite B. Zero C. 1.67 X⁻¹⁷ kg D. All of the above
856	In Helium Neon laser, discharge tube is filled with Neon gas.	A. 10% B. 15% C. 85% D. 90%
857	Kx -Xrays are produced due to transition of electron from.	A. K to L shell B. L to K shell C. M to K shell D. M to L shell
858	X- ray diffraction reveals that these are	A. Particle type B. Wave type C. Both wave and particle D. None of above
859	Bremsstrahlung radiation are examples of	A. Atomic spectra B. Molecular spectra C. Continuous spectra D. Discrete spectra
860	When meta l is heated sufficiently electrons are given off by the metal. This phenomenon is known as.	A. Photoelectric effect B. Piezo electric effect C. Thermionic emission D. Secondary emission
861	Laser can be made by creating.	A. Meta stable B. Population inversion C. Excited state D. All of these

862	Helium Neon Laser Beam emitted from discharge tube has a colour.	A. Blue B. Green C. Red D. Black
863	Laser is a beam of light which is	A. Monochromatic B. Coherent C. Unidirectional D. All of these
864	In Helium Neon laser, the discharge tube is filled with	A. 80% He, 20% Neon B. 85% He, 15% Neon C. 83% He, 17% Neon D. 90% He, 10% Neon
865	The first laser was built by	A. ArthursSchawalow B. T.H.Maiman C. Peter Sorokin D. C.H.Townes
866	Which is not characteristic of Laser.	A. Monochromatic B. Coherent C. Intense D. Multi direction
867	For Holography we use	A. X ray B. Laser C. gama rays D. Beta rays
868	The number of Neutron is $^{238}U_{92}$is	A. 92 B. 238 C. 146 D. 330
869	The number of protons in any atom are always equal to the number of	A. Neutrons B. Electrons C. Positrons D. Mesoris
870	The number of neutrons in Li are	A. 2 B. 3 C. 4 D. 7
871	The charge number of Ba is.	A. 197 B. 141 C. 56 D. 85
872	The number of neutron present in a nucleus in a given by	A. N = A+Z B. N = A- z C. N = Z - A D. N = A X Z
873	The number of Isotopes of cesium are.	A. 4 B. 32 C. 22 D. 36
874	Both Xenon and cesium have	A. 33 isotopes B. 34 Isotopes C. 36 Isotopes D. 35 Isotopes
875	Number of Isotopes of Neon gas are	A. 2 B. 3 C. 4 D. 1
876	The mass spectrum of naturally occurring neon shows the most abundant isotope has atomic mass.	A. 19 B. 20 C. 21 D. 22
877	What is difference is isotopes	A. Number of protons B. Number of neutrons C. Number of electrons D. Charge number
878	The binding energy per nucleon is maximum for	A. Helium B. Iron C. Potassium D. Radium
879	Binding energy for deuteron nucleus is given by	A. 2.8 MeV B. 2.23 MeV C. 2.28 MeV D. 2.25 MeV

880	The amount of energy equivalent to 1 a.m.u is	A. 931.5 MeV B. 93.15 MeV C. 9.315 MeV D. 2.224 MeV
881	Which is true for both alpha particle and gama rays.	A. They cause ionization in air B. They can be deflected by electric field C. They can be deflected by magnetic field D. The y can penetrate a few millimeters of aluminium
882	Energy released by conversion of 1 amu is	A. 200 MeV B. 931 MeV C. 233 MeV D. 243 MeV
883	Binding energy per nucleon is maximum for	A. Platinum B. Iron C. Uranium D. Lead
884	The charge of an alpha particle is equal to	A. -e B. +e C. -2e D. 2e
885	When a nucleus emits an alpha particle, its atomic mass decreases by	A. 1 B. 2 C. 3 D. 4
886	The reciprocal of decay construct lamda of a radioactive element is.	A. Half life B. Mean life C. Curie D. total life
887	Which one of the following is not affected by electric or magnetic field.	A. Beta rays B. Gama ryas C. Alpha rays D. Electron
888	There is no charge in A and Z of any radioactive element by the emission of.	A. Alpha particle B. Beta particle C. Gama particle D. X- rays
889	The activity of radioactive sample	A. Is constant B. Increases with time C. Decreases linearly with time D. Decreases exponentially with time
890	When gama rays are emitted, the nuclear mass.	A. Decreases by 4 units B. Does not change C. Increases by 2 units D. Increase by 1 unit
891	Marie Curie and Pierre Curie discovered.	A. Uranium B. Uranium and Radium C. Polonium and radium D. Radium
892	X-rays are similar in nature to.	A. Gama rays B. Beta rays C. Alpha rays D. Cathode rays
893	The force which is responsible for the breaking up of the radioactive element is.	A. Weak nuclear force B. Strong nuclear force C. Electromagnetic force D. Gravitational force
894	Half life of radon gas is	A. 3.8 minutes B. 3.8 days C. 3.8 months D. 3.8 years
895	Materials can be identified by measuring their	A. Mass B. Half life C. Both a and b D. None of a,b,c
896	Half life of Uranium -239 is	A. 26.5 minutes B. 24.5 minutes C. 25.5 minutes D. 23.5 minutes
897	The half life of radioactive elements depends upon	A. Temperature B. Nature of element C. Amount of the radioactive substance

		D. Pressure
898	The Unit of decay constant.	A. Second B. (second)-1 C. m-1 D. mk
899	By emitting Beta particle and gama particle simultaneously the nucleolus changes in its charges by	A. N B. N/2 C. N/4 D. 3N/4
900	The charge on Beta particle is	A. +e B. -e C. -2e D. None of these
901	Alpha particle carries a charge.	A. -e B. +2e C. -2e D. No charge
902	Cobalt -60 is the source for	A. Alpha rays B. Gama rays C. Beta rays D. Neutron
903	The mass of beta particle is equal to mass of.	A. Protons B. Electrons C. Neutrons D. Boron
904	Which particle has larger range in air.	A. Alpha rays B. Gama rays C. Beta rays D. Neutron
905	The mass of beta particle is equal to the mass	A. Proton B. Neutron C. Electron D. Photon
906	A positron is a particle having.	A. Mass equal to electron B. Charge equal to electron C. Mass equal to mass of electron but charge opposite to charge of electron. D. Mass equal to proton
907	If the following particle have the same energy, which particle has the shortest wave length.	A. alpha particle B. Neutron C. Beta particle D. Proton
908	Which of the following is similar to electron.	A. Beta particle B. Alpha particle C. Neutron D. Proton
909	How many times, the alpha particle is more massive than electrons.	A. 6332 B. 7332 C. 8332 D. 9332
910	In nuclear radiation , track of alpha particle is.	A. Thin B. Discontinuous C. Erratic D. Continuous
911	When a nucleus emits alpha particle its atomic mass decreases by	A. 1 B. 2 C. 3 D. 4
912	GM counter uses	A. Alcohol only B. Bromine C. argon D. Neon and bromine
913	A device that shows the visible path of ionizing particle is called.	A. GM counter B. Solid state detector C. Scalar D. Wilson cloud chamber
914	The dead time of G.M tube is.	A. 10⁻¹ sec B. 10⁻⁶sec C. 10⁻⁴sec D. 10⁻⁸sec

915	Energy needed to produce an electron hole in solid state detector is.	A. 1 to 2 eV B. 3 to 4 eV C. 6 to 7 eV D. 8 to 9 eV
916	When nitrogen is bombarded by alpha particles nitrogen nucleus changes into	A. Oxygen B. Carbon C. Barium D. Helium
917	The quantity of U in the naturally occurring uranium is.	A. 0.2% B. 0.3% C. 0.7% D. 0.4%
918	The place for soring the nuclear waste is	A. Ocean B. Damping in earth C. Damping in desert D. Bottom of old salt mines
919	Nuclear fission chain reaction is controlled by using.	A. Cadmium rods B. Iron rods C. Platinum rods D. Steel rods
920	The moderator used in a nuclear reactor	A. Sodium B. Uranium C. Graphite D. Cadmium
921	Hydrogen bomb is an example of.	A. Nuclear fission B. Nuclear fusion C. Chain reaction D. Chemical reaction
922	Absorbed Dose 'D' is defined as	A. m/E B. E/C C. C/m D. E/m
923	1 gray is equal to.	A. 1 JKg-1 B. 1KgJ-1 C. 1JKg D. 1 JKg-2
924	For workers in nuclear facilities is, a weekly does of is normally considered safe	A. 1.0 msv B. 5.0 msv C. 2.0 msv D. 3.0 msv
925	Curie is unit of.	A. Conductivity B. Binding energy C. Radioactivity D. Resistivity
926	The background radiation to which we are exposed, on the average is.	A. 1 mSv per year B. 2 mSv per year C. 3 mSv per year D. 4 mSv per year
927	Gamma rays from cobalt -60 are used for treatment of.	A. Circulation of blood B. Cancer C. Heart Attack D. Thyroid glands
928	Circulation of blood is studied by radio isotope.	A. Cobalt -60 B. Phosphorus -32 C. Sodium -24 D. Iodine -131
929	The most useful tracer is.	A. Strontium -90 B. Iodine -31 C. Cobalt -60 D. Carbon -14
930	Iodine -131 is used for the treatment by	A. Bones B. Eyes C. thyroid glands D. Lungs
931	Various types of cancer are treated by	A. Carbon -14 B. Nickel -63 C. Cobalt -60 D. Strontium -90
932	Which of the following is typical source of alpha particle.	A. Strontium -94 B. Radon -222 C. Cobalt -60 D. Zic sulphate

933	Mass of meason is	A. Greater then proton B. Less than proton C. Equal to proton D. Equal to neutron
934	Which one belongs to lepton's group	A. Electron B. Muons C. Neutrons D. All of these
935	A pair of quark and anti quark makes a.	A. Meason B. harden C. Lapton D. Baryon
936	The particles equal in mass but greater than proton are.	A. Mesons B. Baryons C. Leptons D. Hadrons
937	A proton consists of quarks which are.	A. Two up, one down B. One up, two down C. All up D. All down
938	Electrons are	A. Hadrons B. Laptons C. Quarks D. Baryons
939	Two down and one up quarks make	A. Proton B. Neutron C. <strike>photon</strike> D. Positron
940	Cosmic rays consist of	A. Protons B. High energy photons C. Positron D. All of above
941	The types of quacks are.	A. 2 B. 3 C. 4 D. 6
942	Subatomic particles are divided into groups.	A. Photon B. Laptons C. Hadrons D. All of these
943	Two up quarks and one down quarks makes a	A. Proton B. Newton C. Photon D. Meson
944	The building blocks of protons and neutrons are called.	A. Ions B. Electrons C. Positrons D. quarks
945	Which of the following are not hadrons.	A. Muons B. Mesons C. Positrons D. Neutrons
946	A particles equal or greater in mass than of protons are called.	A. Baryons B. Leptons C. Mesons D. Quarks
947	Which pair belongs to hadrons.	A. Protons and Neutrons B. Neutrons and electrons C. Photons and electrons D. positrons and electrons
948	The particles which do not experience strong force are called.	A. Baryons B. Hadrons C. Mesons D. Laptons