PPSC Physics Chapter 7 Modern Physics

Sr	Questions	Answers Choice
1	The decay process in which an unstable nucleus splits into two fragments of comparable mass is known as.	A. Nuclear fission B. nuclear fusion C. Radioactivity D. Carbon dating
2	The half life of isotopes X is four days and its initial mass is 32 mg What mass of the isotope X will remain after twelve days.	A. 2 mg B. 4 mg C. 8 mg D. 18 mg
3	the alpha particle does not travel for enough in air.	A. Due to its intense ionization B. Due to its large mass C. Due to its high charge D. Due to its Hight Ionization
4	When of the following radiations are not emitted by electron transitions in atoms.	A. Visible rays B. Ultraviolet rays C. Infrared radiations D. Alpha particles
5	What will be excitation energy in the third orbit of hydrogen atom.	A. 0.66 eV B. 0.85 eV C. 1.5 eV D. 5.4 eV
6	An operational amplifier can be used as a	A. Comparator B. Night switch C. Inverting and non inverting amplifier D. All of the above
7	Radius of the Bother's orbit is r the radius of second orbit will be.	A. 2 r B. 3 r C. 4 r D. 8 r
8	The binary equivalent of 25 is	A. 111001 B. 11001 C. 1001 D. 10101
9	How positives feedback will effect an amplifier.	A. Increases the voltage gain B. Decreases the voltage gain C. Imitates oscillation to occur D. Damaged it
10	In a Nuclear reactor which material is often used as modeerator.	A. Water B. Graphite C. Uranium D. Water and graphite
11	X-rays spectrum may be	A. Continuous spectrum B. Discontinuous spectrum C. Line spectrum D. Continuous and line spectrum
12	Beta decay may occur by	A. Beta minus B. Beta Plus C. Electron capture D. All of these
13	Compton scattering experiment seemed to indicate that radiation had	A. Wave nature B. Particle nature C. Wave particle nature D. X-rays nature
14	The rest mass of a particle is independent of the	A. Wavelength of the particle B. Mass of the particle C. Speed of the particle D. Energy of the particle
15	The angular speed of an electron in the nth orbit of Bohr's hydrogen atom is.	A. Directly proportional to n B. Directly proportional to n2 C. Inversely proportional to n

		D. Inversely proportional to n2
16	Cobalt -60 is a radioactive element with half life of 5.25 years. What fraction of the original sample will be left after 26 years.	A. 1/4 B. 1/8 C. 1/16 D. 1/32
17	When objects placed in a room are exposed to X- rays they appear	A. Violet B. Visible C. Red D. Invisible
18	The division and germier experiment relates to	A. Diffusion B. interference C. Polarization D. Electron diffraction
19	Which of the following radiations will burn human skin	A. Infrared B. Ultraviolet C. X rays D. Alpha particles
20	An increase in frequency above threshold frequency results in.	A. Increase in photo electric current B. Increase in K.E. of electrons C. Decrease in photoelectric current D. Decreases in K.E. of electrons
21	Half life and mean lifetime of a radioactive element are.	A. Equal to each other B. Inversely proportional to each other C. Directly proportional to each other D. Not related to each other
22	The simple form of particle accelerator is.	A. Cathode ray tube B. Oscillator C. _{Amplifier} D. Phase locked loop
23	The strength of photo electric current depends upon.	A. Intensity of incident light B. Frequency of incident light C. Angle of incident light D. Distance between anode and cathode
24	The transition of inner shell electrons in heavy atoms gives rise to the emission of.	A. Low energy b-particle B. High energy b-particle C. High energy X- rays D. High energy gama rays
25	In a fission reactor which particle causes a uranium -235 nucleus to split.	A. Alpha particle B. Gama ray C. Neutron D. Proton
26	Both xenon and cesium each have	A. 24 isotopes B. 28 isotopes C. 32 isotopes D. 36 isotopes
27	The continuous X rays spectrum is due to an effect.	A. Bremsstrahlung B. Breaking radiation C. Holography D. both a and b
28	One particle having zero mass and zero charge is.	A. Positron B. Electron C. Neutrino D. Neutron
29	In a photocell, certain metals emit electrons for	A. Visible light B. X-rays C. Infrared light D. Ultraviolet light
30	Mosley's law establishes the X-rays fluorescence of target element with is.	A. Atomic weight B. Atomic number C. Density D. Lattice constant
31	Critical mass is the minimum mass needed for	A. Fusion B. H-Bomb C. Chain reaction D. Binding energy
32	An operational amplifiers will act as an inverting amplifier when the input signal is connected to.	A. Inverting terminal B. Non inverting terminal C. Earthened wire D. Both a and b

33	In the fusion process, there are	A. Hydrogen isotopes B. Helium Isotopes C. Carbon isotopes D. Oxygen isotopes
34	In a transistor which one is very thin.	A. Collector B. Emitter C. Base D. Depletion region
35	The emission of Beta particle from protonium -218 results in the formation of.	A. Protactinium -231 B. Thorium -232 C. Astatine -218 D. Radon -222
36	The neutral atoms of all isotopes of the same element contain the same numbers of.	A. Electrons and protons B. Electrons and neutrons C. Neutrons D. Neutrons and protons
37	Which of the following describes that the time interval between two events may be different in different of references	A. Simullaneously B. Time dilation C. Length contraction D. Mass variation
38	A darling ion amplifier is characterized by	A. High voltage and current gain B. High input resistance and current gain C. High output resistant and current gain D. Low input resistance and current gain
39	Which one of the following spectra series is in the ultraviolet region.	A. Lyman series B. Paschen series C. Brackett series D. Plund series
40	Which type of radiation would be stopped completely by a thin piece of cardboard.	A. Alpha particles B. Beta particles C. Gama rays D. X -rays
41	A complete amplifier circuit made on a silicon chip and enclosed in a small capsule is	A. Inductor B. Metal detector C. Diode D. Operational amplifier
42	Work function is generally expressed in.	A. Electron volt B. Joules C. Newtons D. Gauss
43	In a resistor, when base width decreases with increasing Vbc, this phenomenon is called.	A. Tunneling B. Thermal runway C. Pinch off D. Early effect
44	the wavelength of continuous X-rays is inversely proportional to.	A. Intensity of incident electron beam B. Temperature of the target C. Intensity of X-rays D. The energy of electrons striking the target
45	Which of the following is the most commonly used regions of operations for a transistor.	A. Cut off B. Saturation C. Active D. All of these
46	Though the wavelength of X-rays is smaller than that of visible light yet the speed of X-rays in vacuum is.	A. longer that that of visible light B. Smaller than that of visible light C. Same as that of visible light D. Unpredictable
47	LED is a p-n junction that emits	A. Visible light B. X- rays C. Ultraviolet light D. electromagnetic waves
48	NOR gate is a combination of.	A. OR gate and NOT gate B. OR gate and AND gate C. OR gate and OR gate D. NOT gate and AND gate
49	The total energy of the hydrogen atom is	A. zero B. Infinite C. positive D. Negative

50	The chain reaction is controlled by a series of rods usually made of.	A. uranium B. Cadimium C. Boron D. Steel
51	During transition, atom cannot emit	A. Visible light B. Ultraviolet radiation C. Infrared radiations D. gama rays
52	The energy in an electromagnetic wave is carried in the units called.	A. Protons B. Electrons C. Neutrons D. Nucleus
53	Particle which can be added to the nucleus of an atom with changing its chemical properties are called.	A. Electrons B. Protons C. Neutrons D. Alpha particles
54	The molecular weight of D2O is	A. 16 B. 18 C. 20 D. 24
55	The splitting of atomic energy levels and the associated spectrum lines when the atoms are placed in a magnetic field is called.	A. The photoelectric effect B. The zeeman effect C. The Compton effect D. Quantum effect
56	What are isotopes.	A. Atoms of the same element with different numbers of neutrons. B. Atoms of the same element with different numbers of protons. C. Atoms which are radioactive D. Atoms which have gained or lost an electron
57	Which of the following causes the deflection of Alpha particles when they re passed through a thin foil.	A. Attraction of nucleus B. Collision with nuclei C. Interactions with electrons D. Electrostatic repulsion by the nucleus
58	How many types of quarks were suggested i 1964 quark theory.	A. Two B. Three C. Four D. Five
59	The relationship between mass number atomic number and neutron number is.	A. A = Z + N B. A = Z - N C. Z = A + N D. N = Z - A
60	Which of the following has greatest binding energy per nucleon.	A. Normal hydrogen B. Deuterium C. Tritium D. Helium-4
61	In CE amplifier phased reversal occurs when the output voltage is taken between	A. Base and collector B. Base and emitter C. Collector and emitter D. None of the terminals
62	When light of particular frequency is allowed to fall upon a metal surface electrons are emitted from a these emitted electrons are called.	A. Photons B. Holes C. Quants D. Photo electrons
63	The maximum K.E of photo electrons depends upon	A. Energy of incident radation B. Frequency of incident radiation C. Wavelength of incident radiation D. Mass of incident radiation
64	The continuous x rays spectrum is obtained due to	A. Deceleration of impact electrons B. Breaking potential C. Excitation potential D. Ionization potential
65	Radioactive substances do not emit	A. Alpha particles B. Beta particles C. Gama rays D. Neutrons
66	Which of the following is not a mode of radioactive decay.	A. Positron emission B. Electron capture C. Fusion reaction D. A decay

67	Transistor are made from	A. Plastics B. Metals C. Insulators D. Doped semiconductors
68	Which experiment confirmed the de Broglie hypothesis.	A. Double slit experiment B. Division germier experiment C. Schrodinger's Cat experment D. Bohr's experiment
69	The half life of a given radioactive isotope is 10 years The original mass of the isotope is 12 g What mass of this isotope remains un decayed after 20 years.	A. 0.5 g B. 1.2 g C. 3.0 g D. 6.0 g
70	The ionization energy for hydrogen atom is	A. -11.6 eV B. -12.6 eV C. -13.6 eV D. -19.6 eV
71	The critical mass of a fission reaction is.	A. The mass to start a nuclear fission reaction B. The minimum mass for chain reaction C. The size of the reactor core D. The size of fuel plus the size of moderator
72	When a helium atom loses an electron it becomes.	A. An a particle B. A proton C. A positive helium ion D. A negative helium ion
73	In which of the following controlled nuclear chain reaction is used to liberate energy.	A. Nuclear bomb B. Atomic bomb C. Hydrogen bomb D. Nuclear reactor
74	The force that bonds protons and neutrons together int he nucleus despite the electrical repulsion of the protons is called.	A. Molecular force B. Nuclear force C. Atomic force D. Gravitational force
75	The mass of an alpha particle is.	A. 2 u B. 4 u C. 6 u D. 8 u
76	The Compton effect in X-rays proves that	A. Electrons have wave property B. x-rays have wave properly C. X-rays have particle characteristics D. Electrons cannot exist
77	When transistor works as an amplifier, its output is.	A. More B. Less C. Zero D. Directly proportional to the input
78	The most suitable material for moderator in a nuclear reactor is.	A. B B. Cd C. D2O D. Uranium
79	Which experiment is a demonstration that matter and energy can display properties of both waves and particles.	A. young's double slit experiment B. Division germier experiment C. Heisenberg's uncertainty experiment D. Stern Gerlach experiment
80	Which of the following properties is not exhibited by X-rays.	A. Interference B. Diffraction C. Polarization D. Deflection of electric field
81	What is the scale for measurement of Banbridge mass spectrograph.	A. Linear B. Inverse C. Exponential D. Logarithmic
82	Which of the following radiations can penetrate 20 cm thick steel.	A. Alpha particles B. Beta particles C. Gama particles D. Neutrons
83	Which both elements are good for nuclear fission.	A. Thorium an uranium B. Thorium and radium C. Plutonium and uranium D. Plutonium and throrium

84	x-rays cannot produce	A. Photoelectron B. Compton electron C. Electron positron pair D. All of these
85	The electron behave an waves because	A. They can be diffracted by a crystal B. They can produce ions in gases C. They can be deflected by magnetic field D. They can be deflected by electric field
86	Which of the following circuits is used as local oscillator in radio receivers.	A. AF oscillator B. Phase Local Loop C. RF oscillator D. All of the above
87	X-rays are not used in RADARs because	A. They are not reflected by the target B. they are not completely absorbed by air C. They damage the target D. They are reflected by the target
88	Deuterium is	A. A transuranic element B. A type o cosmic particle C. An isotope of hydrogen D. An isotope of helium
89	The half life of a radioactive element depends upon.	A. Temperature B. pressure C. nature of element D. quantity of the element
90	Which uranium isotope having the atomic weights as given below is easily fissionable.	A. 234 B. 235 C. 236 D. 238
91	Mosley's law establishes the x rays fluorescence's of target element with its.	A. Atomic weight B. Atomic number C. Density D. Lattice constant
92	A photon is chasing an electron, whose speed is 0.9 c What is their relative speed.	A. 0.1 C B. C C. 0.8 C D. 0.9 C
93	An active component of an electronic circuit consisting of a small block of semiconducting material to which at least three electrical contacts are made is known as.	A. Rectifier B. Amplifier C. Thermocouple D. Transistor
94	Which particle has zero charge and zero rest mass.	A. Neutron B. Proton C. Electron D. Photon
95	The critical mass of fissionable uranium -235 can be reduced by	A. Adding impurities to it B. Heating the material C. surrounding it by neutron reflecting material D. Surrounding it by neutron absorbing material
96	One radian is equal to.	A. 0.1 Gy B. 0.01 Gy C. 0.001 Gy D. 0.0001 gy
97	Radioactivity is the phenomenon associated with the.	A. Transition of radiowaves B. production of alpha particles only C. Decay of nucleus D. Reception of radio waves
98	The average energy released per fission of U is about	A. 200 eV B. 2 keV C. 2 MeV D. 200 MeV
99	The energy equivalent of 1 kg of matter a	A. 10⁻¹⁵ J B. 1 J C. 10¹²J D. 10¹⁷ J
		A. the largest potential difference they can traverse

100	The maximum energy of emitted photoelectron is measured by	B. The current they produce C. The potential difference they produce D. The speed with they emerge
101	X-rays used for	A. Cutting boring and precision welding B. Retina stitching in eye operations C. Detecting heavy elements under the earth D. Deflecting flaws in welding and casting
102	In heavy elements of the periodic table the number of neutrons than protons are.	A. Lesser B. Greater C. Equal D. Undetermined
103	Low frequency response of an amplifier is mainly limited by.	A. Biasing configuration B. Coupling capacitor C. By pass capacitor D. Input impedance
104	The working of cloud chamber is based in the presence of.	A. Super heated vapours B. Liquid C. Super saturated vapors D. Unsaturated vapours
105	Alpha particles are	A. Helium nuclei B. sodium nuclei C. loized nuclei D. Hydrogen nuclei
106	Which of the following is formed by decay of a free neurton.	A. A number of electrons B. Two protons C. A proton and an electron D. An alpha particle
107	The phenomenon is which the wavelength of scattered X-rays is larger than the incident X-rays is known as.	A. Zeeman's effect B. Photoelectric effect C. Compton's effect D. Annihilation of matter
108	Which one of the following quantities is conserved in a nuclear reactor.	A. Energy only B. Mass only C. Momentum only D. Mass energy and momentum
109	48 days after the receipt the amount of iodine -131 left behind is only.	A. 0.1325 g B. 0.2135 g C. 0.3125 g D. 0.1235 g
110	The bunding energy per nucleon for iron is.	A. zero B. Maximum C. Negative D. Minimum
111	In n-p-n transistor the current flows in the direction from	A. Emitter to base B. emitter to collector C. Base to emitter D. Base to collector
112	Hydrogen bomb is based on	A. Controlled chain reaction B. Uncontrolled chain reaction C. Nuclear fusion D. Nuclear fission
113	The usefulness of X rays is largely due to their	A. Mass B. Density C. Volume D. Penetrating power
114	X-rays are also used for	A. Ultrasound imaging B. endoscopy C. Computerized tomography scanning D. Magnetic resonance imaging scanning
115	The total number nucleons in a nucleus are called.	A. Mass number B. Atomic number C. Neutron number D. Isotopes
116	The path of electron in Rutherford atomic model according to classical theory a.	A. Parabolic B. Straight line C. Spiral D. Circular

		D. Circular
117	When we pass a radiation from a radioactive material through an electric field.	A. All three kinds of rays will be deflected B. Only the Gama rays are deflected C. The Alpha and Beta particles are deflected D. Only the alpha particles are deflected
118	Special theory of relativity deals with the events in the frames of reference which move with constant.	A. Time interval B. Acceleration C. Momentum D. space interval
119	A solid state detector is basically	A. A reverse biased p-n junction B. A forward biased p-n junction C. A p-n -p transistor D. A n-p-n transistor
120	Neutrino9 is a particle with	A. Charge less property and has no spin B. Charge less property and has spin C. Charge less like electron and has spin D. The same property as neutron
121	Which of the following quantities is discrete according to Bohr's hypothesis.	A. Momentum B. Potential energy C. Angular velocity D. Angular momentum
122	The process of energy generation in sun and stars is.	A. Fusion of heavy nuclei B. fusion of light nuclei C. Fission of light nuclei D. Solar panels
123	The reciprocal of decay constant lamda of a radioactive element is.	A. Half life B. Mean life C. Total life D. Curie
124	The Beta particles move along.	A. Straight path B. Curved path C. Zig Zag path D. Circular path
125	The phenomenon of radioactivity is associated with	A. Decay of nucleus B. Decay of atoms C. Fusion of nuclei D. Emission of electrons
126	The wavelength of Lyman series for hydrogen spectrum lies in the.	A. Visible region B. Ultraviolet region C. Infrared region D. Far infrared region
127	When using the formula E = h lambda what unit should energy have.	A. Joule B. Watt second C. Newton metre D. Electron volt
128	Which quantity remains fixed in isobars.	A. Mass number B. Atomic number C. Number of neutrons D. Number of protons
129	If an object moves with velocity of light the apparent mass of the object as compared to list original mass is	A. greater B. Smaller C. Same D. zero
130	Which one of the following has the largest wavelength.	A. x rays B. Infrared rays C. Visible light D. Radio waves
131	the gain of an amplifier is independent of	A. The two externally connected resistances B. What is happening inside the amplifier C. Internal structure of the amplifier D. All of the above
132	In the experiment of photo electric effect the minimum frequency of photons at which electrons are emitted from a metal surface is called.	A. Critical frequency B. Typical frequency C. Threshold frequency D. Surface frequency
		A. OR

133	Which one of the following gates in a a universal gate.	A. OR B. AND C. NOT D. NAND
134	Which of the following is invariant under Galilean transformation.	A. Velocity B. Impulse C. Momentum D. Distance
135	LASER is a device which can produce.	A. Monochromatic beam of light B. Coherent beam of light C. An intense beam of light D. All of the above
136	Which of the following is believed to be carrier o nuclear forces.	A. Lepton B. Meson C. Bason D. Baryon
137	Two electrons approach each other their relative velocity will be.	A. Zero B. c C. c/2 D. Infinity
138	Ionization of a hydrogen atom originally in its ground state takes a minimum out of energy equal to.	A. 2.4 J B. 4.2 J C. 12.3 eV D. 13.6 eV
139	Tracer techniques make use of.	A. Neutron scattering B. Electron beams C. LASER D. Radioactive isotopes
140	The number of electrons in U nucleus are.	A. 92 B. 235 C. zero D. 143
141	The chemical behavior of an atom is determined by	A. Mass number B. Number of Isotopes C. Atomic number D. Binding energy
142	The input exultation for a JFET is	A. Current signal B. Voltage signal C. Voltage and current signals D. Neither voltage nor current signal
143	In which reaction two or more small light nuclei nuclei come together or fuse to form a large nucleus.	A. Radioactivity B. Radioactivity dating C. Nuclear fusion D. Nuclear fission
144	The radius of second orbit of hydrogen atom is	A. 0.071 A B. 0.142 A C. 4.752 A D. 9.5298 A
145	A logic circuit whose output signal is '1' when inputs are different is.	A. NAND gate B. NOR gate C. Exclusive OR gate D. Exclusive NOR gate
146	The process of pair production will take place if the energy of photon is greater than.	A. 0.21 MeV B. 0.51 MeV C. 1.51 MeV D. 1.21 MeV
147	What is the overall gain, if three amplifiers each with a gain of 30 are cacaded.	A. 30 B. 90 C. 270 D. 27,000
148	The maximum K.E. with which photoelectrons are emitted depends very strongly on the.	A. Intensity of incident light B. Electric field near the photocathode C. Frequency of incident light D. Polarization of incident light
149	A slow neutron can cause fission in	A. Uranium -238 B. Uranium-235 C. Hydrogen-1 D. Thorium -232
150	Among different elements of the periodic table which of the following atoms is the simplest.	A. Carbon B. Oxygen C. Hydrogen D. Nitrogen

		D. Nitrogen
151	A deuteron is	A. A type of proton B. A proton neutron bounded to gather. C. A type of beta particle D. A type of neutron
152	The energy of neutrons obtained during a fission reaction is.	A. 0.1 MeV B. 1 KeV C. 1 MeV D. Zero
153	Which of the following is not an electromagnetic wave.	A. game rays B. Ultraviolet rays C. Ultrasonic waves D. Microwaves
154	Which temperature is required for the fusion of two nuclides.	A. 10⁶ K B. 10⁷K C. 10⁸K D. 10 ⁹ K
155	The emission of electrons from a metal surface when exposed to light of suitable frequency is called.	A. Pair production B. Compton effect C. Photo electric effect D. Zeeman effect
156	The hyperfine lines in the spectrum relates to	A. Stark effect B. Zeeman effect C. Lande's spliting D. Nuclear magnetic spin
157	The path of Gama rays in Wilson cloud chamber is	A. Irregular B. Dense and straight C. Thin and continuous D. Thin and discontinuous
158	The 'x' in X-rays means	A. Xenon B. Explosion C. x for unknown D. X makes the spot
159	The unit of Rydberg constant R is	A. m B. m3 C. m⁻¹ D. m-2
160	In a nuclear reactor chani reaction is controlled by introducing.	A. Iron rods B. Cadmium rods C. Graphite rods D. Platinum rods
161	Why transistor is preferred to triode valve for use as an amplifier.	A. Because it can handle large power B. Because it has higher input impedance C. Because it has higher voltage gain D. Because it has lower voltage gain
162	An AND gate is.	A. Equivalent to a series switching circuit. B. Equivalent to a parallel switching circuit C. Equivalent ot universal gate D. A reciprocal of NAND gate
163	Which of the following detectors can count fast and operate at low voltage.	A. G.M Counter B. Cloud chamber C. Solid state detector D. Bubble chamber
164	There are how many modes of operations of a BJT.	A. 2 B. 3 C. 4 D. 5
165	Usually in an operational amplifier the inputs used are of	A. Equal voltage and same polarity B. Equal voltage and opposite polarity C. Different voltage and same polarity D. Different voltage and opposite polarity
166	The unit Planck's constant is equivalent to that of.	A. Energy B. Force C. Velocity D. Angular momentum
		A. special theory of relativity B. General theory of relativity

167	The part of theory of relativity which deals with accelerated bodies is called.	B. General theory of relativity C. Lorentz's theory of relativity D. Galilean theory of relativity
168	The potential due to which an electron is lifted from gerund state to excited state is.	A. Potential gradient B. excitation potential C. Ionization potential D. Potential difference
169	Lissajou's figures are used in a Cathode Ray Oscilloscope while measuring.	A. Time period B. Frequency C. Voltage gain D. phase angle
170	In de Brogile model electron orbit must form	A. Spectrum B. Wave packets C. Franhoffer lines D. Clouds
171	If the base emitter junction is forward biased and base collector junction is reverse biased the BJT is in.	A. cut of mode B. Amplification mode C. Saturation mode D. Inversion mode
172	An Alpha particle is the same as	A. A helium nucleus B. A high speed electron C. A hydrogen nucleus D. Electromagnetic radiation of short wavelength
173	A factory buy 100 g of a radioactive chemical with a half life of 5 years which decays to a stable compound How much of the chemical will still be radioactive 10 years time.	A. 25 g B. 50 g C. 75 g D. 100 g
174	Which one of the following is a neutron absorber	A. Pb B. Cd C. Cu D. Ag
175	The change in wavelength of an X-ray when scattered from an electron is called.	A. Compton shift B. Doppler shift C. Stefan's law D. Fraunhofer lines
176	Which of the following is required for maintaining sustained chain reaction.	A. Neutrons B. Protons C. Electrons D. Photons
177	Induced fission result from the absorption of	A. electron B. Proton C. Nucleon D. Neutron
178	What is the relativistic version of the Schrodinger equation.	A. Klein Gordon equation B. Laplace equation C. Quadratic equation D. Binomial equation.
179	Emitter follower amplifier is an example of.	A. Current series feedback B. Voltage series feedback C. Current shunt feed back D. Voltage shunt feedback
180	The half life of a radioactive substance as compared to its mean lif eis.	A. 30% B. 50% C. 70% D. 90%
181	The absorption of X-rays in a given material follows.	A. A parabola path B. Is straight line C. An exponential curve D. A circle
182	What is the effect of electric and magnetic fields on X-rays	A. X-rays are deflected B. X-rays are not deflected C. X-rays are sometimes deflected and sometimes not D. Nothing can be said
183	One gray is equal to.	A. 1 J-1 kg -1 B. 1 J -1 kg -2 C. 1 J 1 -g-1 D. 1 j kg -2
184	A spectroscope sorts out	A. Atoms B. Molecules

		C. Elements D. Isotopes
185	In which of the following studies x-rays are not helpful.	A. Crystal structure B. Crystal surface C. Crystal symmetry D. Crystal atoms
186	The exitance of more than one distinct state with the same energy is called.	A. Exigency B. Degeneracy C. Normally D. Emergency
187	In Compton's effect the change in wavelength of a scattered photon is called.	A. Angle of emergence B. Angle of refraction C. Angle of deviation D. Compton shift
188	Which of the following has the highest relative biological effectiveness or the quality factor.	A. X rays and Gama rays B. Electrons C. Photons D. Alpha particles
189	At high temperature a body generally emits redactions of.	A. Small wavelengths B. Long wavelengths C. Moderates wavelengths D. Zero wavelengths
190	The value of open loop gain for the amplifier is	A. zero B. very low C. very high D. of an intermediate vaue
191	The radius of first Bohr's orbit for hydrogen atom is.	A. 0.53 m B. 0.53 nm C. 0.053 nm D. 0.53 mm
192	The most familiar example of radioactive dating is.	A. Nitrogen dating B. Carbon dating C. Hydrogen dating D. Helium dating
193	The Rutherford atom according to classical theory is	A. Stable B. Unstable C. Partially stable D. Quantized
194	Isotopes are the atoms of the same elements which contain equal number of.	A. Nucleus B. Neutrons C. Protons D. Electrons
195	The necessary condition for nuclear fusion is.	A. High temperature and high pressure. B. Low temperature and high pressure C. Low temperature and low pressure D. High temperature and low pressure.
196	Sub atomic particles which experience strong nuclear force are.	A. Leptons B. Hadrons C. Mesons D. Quarks
197	Cosmic rays mostly comprise of	A. Neutral particles B. Negative charged particles C. Positively charged particles D. Ions
198	A perfect back body	A. Is a perfect absorber of all radiations B. Is a perfect reflector of all radiations C. Is a perfect reflector of visible lights radiations D. Is a brownish object
199	Photocells are used for	A. Security systems B. Counting systems C. Automatic door system D. All of the above
200	Alpha particles emitted from a radioactive material are.	A. He nucliei B. H -nucliei C. Li nucliei D. B nucliei

201	Which of the following is basic transistor configuration.	A. CB B. CC C. CE D. All of these
202	Base current of a transistor is 1 mA and collector current is 99 mA What is emitter current.	A. 1 mA B. 100 mA C. 98 mA D. 110 mA
203	Which particle is removed by a photon.	A. Quark B. Electron C. Proton D. Neutron
204	The tunnel effect makes possible	A. Alpha decay B. Gama rays C. Positive Beta decay D. negative Beta dacay
205	Which particle interact via all fundamental forces.	A. Leptons B. Hadrons C. Muons D. mesons
206	The decimal equivalent of 1111 is	A. 5 B. 10 C. 15 D. 120
207	The unit generally used for measuring astronomical distances is.	A. Parsecs B. Light year C. Metre D. Kilometer
208	The value of principal quantum number for an ionized atom is.	A. 13.6 eV B. 27.2 eV C. 54.4 eV D. 100 eV
209	In the experiment of production of X rays electrons are accelerated towards the anode by	A. Thermionic emission B. Potential difference C. Breaking potential D. Cut of current
210	An emitter follower has	A. High input impedance and high output impedance B. High input impedance and low output impedance C. Low input impedance and low output impedance D. Low input impedance and high output impedance
211	Which of the following are particle accelerators.	A. Cyclotrons B. Synchrotrons C. Linear accelerators D. All of the above
212	The SI unit of absorbed dose in.	A. Bel B. Weber C. Rem D. Grey
213	As oscillator is basically an amplifier with loop gain	A. Zero B. Infinity C. Less than unity D. More than unity
214	When a posirtron is emitted it causes.	A. Mass number to increase by one B. mass number to decrease by one C. Atomic number to decrease by one D. Atomic number to increase by one
215	How many terminals does a BJT have.	A. 1 B. 2 C. 3 D. 4
216	Why FET amplifiers are called voltage controlled devices.	A. Input is a current signal B. Output is a current signal C. Input is a voltage signal D. Output is a voltage signal
217	One rem is equal to.	A. 0.1 Sv B. 0.01 Sv C. 0.001 Sv D. 0.0001 SV

218	Sub atomic paticles whihc does not experience strong nuclear force are.	A. hadrons B. Photons C. Leptons D. Nucleons
219	Which of the following is deflected by an electric field.	A. Alpha particles B. X rays C. Gama rays D. Neutrons
220	X-rays travel with	A. The speed of light B. The speed of sound C. The speed of 3,000 m s-1 D. The speed of 3,500 m s-1
221	Which of the following is the most massive particle.	A. Deuteron B. Alpha particle C. Neutron D. positron
222	On which factor cut off wavelength of X-rays coming from a Coolidge tube depends upon.	A. Target material B. Accelerating voltage C. Filament temperature D. Separation between target and the filament
223	Magnetic field does not cause deflection in	A. Alpha particle B. Beta minus particles C. Beta plus particles D. Gama rays
224	The X-rays coming from a X-rays tube	A. Is monochromatic B. Has all wavelengths smaller than a certain maximum wavelength C. Has all wavelengths greater than a certain maximum wavelength D. has all wavelengths minimum than a certain maximum wavelength
225	If an object moves with velocity of light the apparent length of the object moving the direction of motion becomes.	A. Larger B. Smaller C. Zero D. Infinity
226	The electrons behave as waves, because they can .	A. Produce ions in gases B. Diffracted by a crystal C. Be deflected by electric fields D. Be deflected by magnetic fields
227	The critical mass of a fissionable material is.	A. 1 kg B. 10 kg C. 100 kg D. 1.,000 kg
228	The ionization potential of hydrogen atom is.	A. 10.2 V B. 13.6 V C. 12.97 V D. 27.2 V
229	A device used to determine mass of an isotope quite accurately is known as.	A. Spectrometer B. Mass spectrometer C. Mass detector D. Electronic balance
230	For the normal operation of transistor the emitter base junction is always.	A. Zero biased B. Reverse biased C. Forward bised D. Both a and b
231	In heavy atims the electrons are assumed to be arranged in.	A. Elliptical shells B. Inner shells C. Concentric shells D. Outer shells
232	In annitilation of matter, positron and electron pair disappears into two	A. Alpha particles B. Beta particles C. Game particles D. X-rays
233	In electromagnetic spectrum X-rays are next to.	A. Water waves B. Radio waves C. ultraviolet waves D. Infrared waves
234	If we use two diodes and a centre tapped transformer we eill get	A. Transistor B. Amplifier C. Half wave rectifier D. Full wave rectifier

235	Which one among these contacts in a transistor is non rectifying.	A. Base B. Emitter C. Collector D. None of these
236	Phenomenon of radioactivity is due to disintegration of.	A. Proton B. Neutron C. electron D. nucleus
237	In an electronic transition atom cannot emit	A. Gama rays B. Visible rays C. Infrared rays D. Ultraviolet rays
238	Radioactive decay series can be represents on	A. Smith chart B. Segre chart C. Logarithmic chart D. Carbon paper
239	The SI unit of equivalent dose is	A. Seivert B. Gray C. Radian D. Rem
240	What is the energy equivalent to amu in Me V	A. 0.931 MeV B. 9.31 MeV C. 93.1 MeV D. 931 MeV
241	The binding energy per nucleon for uranium is about.	A. 7.7 MeV B. 9.6 MeV C. 13.6 MeV D. 21.6 MeV
242	X-rays are	A. Longitudinal wave B. Transvers waves C. Secondary waves D. Fast sound waves
243	Which of the following is its own anti particle.	A. Photon B. Electron C. Proton D. positron
244	The helium nucleus does not contain	A. Two electrons B. Two neutrons C. Two protons D. Six nucleons
245	X-rays are good for imagining	A. Tendons B. Brain C. Bones D. Heart
246	A transistor can be used as	A. Oscillator B. Amplifier C. Switch D. Both a and c
247	A body moves with velocity of 2 x 10^6 m s-1 its relativistic mass becomes	A. Zero B. Unity C. Double of its rest mass D. Infinity
248	An operational amplifier have how many input terminals.	A. One B. Two C. Three D. Four
249	Which type of amplifier causes minimum drain of power supply.	A. Class -A B. Class -B C. Class-C D. Class -AB
250	The emission of photons by a metal when electrons are incident is called.	A. Photo electric effect B. Pair production C. X-rays production D. Gama ray production
251	The phenomenon in which a photon of frequency 'f' is scattered by an electron and the scattered photon has frequency f <f is known as.	A. Pair production B. Pair annihilations C. Photoelectric effect D. Compton's effect
252	What is the basic advantage of class A operation of an amplifier.	A. It has high efficiency B. It has high gain C. It has low distortion

		D. It has high distortion
253	The mass of proton is equal to.	A. 1.673 x 10⁻²⁷ kg B. 1.673 x 10²⁷ kg C. 9.1 x 10-31 kg D. 9.1 x 10³¹ kg
254	Nuclear force exists between	A. Proton proton B. Neutron -neutron C. neutron -proton D. All of these
255	A CE amplifier with by passed emitter resistor is an example of.	A. Current series feedback B. Voltage sires feed back C. Current shunt feedback D. Voltage shunt feed back
256	The gama rays have	A. Thin tracks B. Thick tracks C. No definite tracks D. Continuous tracks
257	In a Geiger Marsden experiment why do the great majority of the Alpha particles pass straight through the metal foil.	A. Atomic nuclei may contain neutrons B. Atoms are electrically neutral C. Atoms are largely empty space D. Atoms have positively charged nuclei
258	Which of the following can be used as an arrester in a nuclear reactor.	A. Graphite B. heavy water C. Uranium D. Cadmium
259	An oscillator is basically an amplifier with loop gain	A. Zero B. Less than unity C. More than unity D. Infinity
260	As the mass number varies, which of the quantities does not change w.r.t nucleus.	A. Mass B. Volume C. Binding energy D. Density
261	What is the quantitative description of the effect of radiation on the living tissue.	A. Radiation dosimetry B. Radioactive dating C. Telemetry D. Dosage
262	The electrons behave as wave because.	A. They can be diffracted by a crystal B. They can be defecting by magnetic field C. They can be deflecting by electric field D. they can produce ions in gases
263	The input resistance of a JFET is of the order of.	A. 1 M Mega B. 10 M Mega C. 100 M Mega D. 1,000 M Mega
264	Which of the following particles leave no trail in a cloud chamber.	A. Electrons B. Protons C. Alpha particles D. Neutrons
265	The best shield against Gama rays would be of	A. Heavy water B. Aluminium C. Iron D. Lead
266	Which six particles and their antiparticles interact by the weak interaction.	A. Leptons B. Hadrons C. Muons D. pi mesons
267	When a platinum wire is heated of 1600 ^{o}C, it becomes	A. orange B. Cherry red C. Dull red D. White
268	Atomic reactor is based on	A. Controlled chain reaction B. Uncontrolledly chain reaction C. Nuclear fission D. Nuclear fusion
269	The half life of a radioactive substance is 6 years What is the time taken by 12 g of this substance to decay completely.	A. 12 years B. 24 years C. 48 years

		D. Infinity
270	The band width of an audio amplifier is.	A. 10 Hz to 10 kHz B. 20 Hz to 54 Hz C. 20 Hz to 20 kHz D. 20 Hz to 60 kHz
271	In CC configuration voltage gain is.	A. Less than one B. More than one C. One D. Zero
272	X-rays are absorbed maximum by	A. Paper B. Copper C. Steel D. Lead
273	Which term given below refers to the concept moving clocks run slower than clocks at rest w.r.t an observer.	A. Simultaneously B. Mass variation C. time dilation D. Length contraction
274	Push pull amplifiers employ	A. One transistor B. Two transistors C. Three transistors D. Four transistors
275	The decay to form other nuclides by emitting particles and electromagnetic radiations by unstable nuclides is called.	A. Nuclear stability B. Radioactivity C. Carbon dating D. Spontaneously
276	In the Geiger Marsden experiment a narrow beam of alpha particles was fired at a thin piece of Gold foil in a vacuum Some of the particles were scattered though large angles The result of the experiment provided evidence for the existence of.	A. A very small charged nucleus B. electrons orbiting the nucleus C. Neutrons in the nucleus D. Nuclear reaction
277	In fission reaction, heavy water is used as a	A. Coolant B. Moderator C. Heat exchanger D. Controller of reaction rate
278	Which particle are not emitted by a radioactive substance.	A. Alpha particles B. Beta particles C. Gama particles D. Neutrons
279	A freshly made sample of radioactive material gives a count rate of 8,000 counts per minute After twenty days it gives a count rate of 500 counts per minute What is the half life of the materials.	A. 5 days B. 10 days C. 40 days D. 20 days
280	At what speed the mass of a body will be doubled.	A. 0.67 C B. 0.77 C C. 0.87 C D. 0.97 C
281	The particles less in mass than protons are	A. Measons B. Bosons C. Baryons D. Nucleons
282	The most abundant isotope of neon is.	A. Neon -20 B. Neon -21 C. Neon -22 D. Both a and c
283	Which one of the following has maximum frequency.	A. Visible light B. Gama rays C. Ultraviolet rays D. Infrared rays
284	Which particles have spin quantum number 1/2	A. Mesons B. Laptons C. Hadrons D. Muons
285	The half life of radium -226 is	A. 1620 years B. 45 x 10⁹ years C. 3.8 days D. 23.5 minutes
286	From which radiation it is most difficult to protect oneslelf.	A. Alpha radiation B. Beta radiation C. Gama radiation D. Heat radiation
287	A transistor consists of	A. One p-n junction B. Two p-n junctions

287	A transistor consists of.	C. Three p-n junctions D. Four p-n junction
288	The mass of an helium nucleus is equal to.	A. 2.0015 u B. 3.0015 u C. 4.0015 u D. 5.0015 u
289	The half life of a radioactive substance depend on.	A. Pressure B. Temperature C. Amount of substance D. No external influences
290	The energy that must be added to separate the nucleus is called.	A. Critical energy B. Binding energy C. Gravitational energy D. Electrostatic energy
291	Why is a capacitor resistor combination used in oscillators in grid circuit.	A. To generate oscillation B. To bias the grid automatically C. To amplify oscillations D. To sustain the oscillations.
292	The capture of neutron by a proton results in the formation of.	A. Deuteron and gama rays B. Deuteron and alpha particle C. Triton and Beta particles D. Tritron and X rays
293	A newly prepared radioactive nuclide has a decay constant Lamda of 10-6 s-1 What is the approximate half life of the nuclide.	A. 1 hour B. 1 day C. 1 week D. 1 month
294	A logic circuit with one input and one output that inverts the input signal at the output is.	A. AND gate B. NOT gate C. OR gate D. NOR gate
295	The loss of mass in a.m.u in a nuclear change can be calculated from energy involved in MeV by	A. Dividing by 931 B. Multiplying by 931 C. Diving by 391 D. Multiplying by 391
296	Matter waves	A. Are electromagnetic in nature B. Travel with the speed of light C. Can be diffracted D. Are longitudinal waves
297	The reciprocal of decay constant lamda of a radioactive substances is equal to.	A. total life B. Half life C. Mean life D. Curie
298	The most convenient unit for energy at the atomic level is.	A. Joule B. Watt second C. Newton metre D. Electron volt
299	Which one of the following is a convenient energy unit to express the energy of sub atomic particles.	A. Joule B. electron volt C. Watt D. Curie
300	The resistance between(+) and (-) inputs of an amplifier is.	A. Zero B. Low C. High D. Infinity
301	Which given quantity remains the same in isotones.	A. Mass number B. Atomic number C. Number of neutrons D. Number of protons
302	The nucleus of tritium is called.	A. Proton B. Triton C. Deuleron D. Positron
303	Which of the following phenomenon cannot be understood by quantum theory.	A. Photo electric effect B. Compton effect C. X-Rays production D. Interference
304	Radio carbon in the atmosphere is produced by the bombardment of.	A. Oxygen by high energy neutrons B. Oxygen by high energy protons C. Nitrogen by high energy protons D. Nitrogen by high energy neutrons
		A. electric generators

305	Transistors with various combinations are widely used as switches in.	B. Rectificers C. Amplifiers D. Computers
306	The SI unit of current gain is.	A. Ampere B. Ampere metre C. Ampere volt D. It has no unit
307	The back ground radiation in the atmosphere on the average is	A. 0.5 Sv per year B. 1.0 Sv per year C. 1.5 Sv per year D. 2.0 Sv per year
308	During the alpha decay process	A. A neutron is emitted B. a electron is emitted C. A helium core is emitted D. A proton core is emitted
309	Mean life of a radioactive sample is 100 s its half life will be	A. 0.693 s B. 1 s C. 6.93 s D. 69.3 s
310	Which of the following atom pair have the same structure.	A. N, C B. B, Li C. H2 , Ne D. Li , Na
311	The scientific theory concerning the coming into existence of universe.	A. Cosmology B. Cosmogony C. Cosmography D. Cosmos
312	The process by which nuclei emit a ,b and gama rays in order to attain stability is called.	A. Radioactive disintegration B. Radio activity C. B decay D. Radioactive transmulation
313	An example of continuous spectrum is.	A. Black body radiation spectrum B. Molecular spectra C. Atomic spectra D. All of the above
314	Nuclear force as compared to electrostatic force is.	A. Weaker and long range B. Weaker and short range C. Stronger and longer range D. Stronger and short range
315	One becquerel is equal to	A. Decay of orie radioactive atoms per second B. Decay of 10 radioactive atoms per secnd C. Decay of 100 radioactive atoms per second D. Decay of infinity radioactive atoms per second.
316	The half life of uranium -238 is	A. 1620 years B. 4.5 x 10⁹years C. 3-8 days D. 23.5 minutes
317	Which of the following configuration of BJTs gives both voltage gain and current gain.	A. common Base B. Common Emtter C. Common collector D. All of the above
318	Which of the following phenomenon is observed in obtaining an X ray photograph of our hand.	A. Photoelectric effect B. Zeeman effect C. Shadow photography D. Ionization
319	In radiotherapy X-rays are used to.	A. Treat cancer B. Delect bone fracture C. Cure heart diseasee D. All of the above
320	Which configuration is used to connect high impedance source to a low impedance lead.	A. CE B. CB C. CC D. BE
321	An important property of an ideal power supply is.	A. Infinite internal resistance B. Zero internal resistance C. Large output resistance D. Small output resistance
		A. Alpha decay

322	Which of the following phenomenon is explained by the tunnel efffect.	B. Beta decay C. Gama decay D. Radioactivity
323	In potential for the material of cathode pure metals are rarely used because of their	A. Low reflecting power B. High reflecting power C. Low resolving power D. High resolving power
324	In Compton's effect it was considered that X-rays consist of	A. Electrons B. Holes C. Neutrons D. Protons
325	Which animal did Erwin Schrodinger contemplate using in his famous thought experiment.	A. mouse B. Cat C. Dog D. Rabbit
326	What do we study by crystallography.	A. The analysis of X ray spectra of elements and study of crystal structure. B. Visible spectra of sources and crystal study C. Ultraviolet spectra of sources and crystal study D. Characteristics of X-rays
327	Besides U^{235} what else is needed for making as atomic bomb.	A. Electons B. Protons C. Neutrons D. Photons
328	When a beta particle travels though a medium it knocks out electrons from the atoms due to.	A. Gravitational force of attraction B. Electrostatic force of repulsion C. Nuclear force D. Electromagnetic induction
329	Which BJT configurations used for signal inversion.	A. CE B. CC C. CB D. BE
330	The mass defect of Bohr's atomic model is	A. Exclusion of nuclear motion B. missing of classical and quantum theories C. Failed to explain the fine structure of spectral line D. All of the above
331	Which Isotopes is use din radioactive dating.	A. C¹² B. C¹³ C. C¹⁴ D. C¹⁶
332	Positron are produced during.	A. Annihilation B. ionization C. Pair production D. x rays production
333	The advantage of electron tube over semiconductor is.	A. _{its efficiency} B. its unlimited type C. Its low consumption power D. That it takes no warming up time
334	Which of the following propagates at the same speed as velocity of light.	A. Heat waves B. Sound waves C. Shock waves D. Beta particles
335	Neither the position nor the momentum of a particle can be predicted with arbitrarily great precision is the statement of.	A. Archimede's principle. B. Heisenberg uncertainty principle C. Mosley's law D. Schrodinger's wave equation
336	X-ray are	A. Streams of negatively charted particles. B. Electromagnetic wave C. Streams of positively charged particles D. Visible light
337	Specially designed solid state detector can be used to detect.	A. Alpha particles B. Beta particles C. Gama rays D. X- rays
		A. Contracts B. Expands

338	When an object moves with a very high speed the length in the direction of motion.	C. Remains the same D. Becomes infinity
339	Which one the following is not a component of a Bipolar junction Transistor	A. Base B. Emitter C. Collector D. Grid
340	According to Max. Planck, energy is released or absorbed in discrete packets called.	A. quanta B. Meson C. Energy shells D. Position
341	Which circuit elements has two stable states and can be used to store information.	A. Flip flop or latch B. Logic gate C. Oscillator D. Amplifier
342	The process of pair production will take place if the energy of photon is greater than	A. 0.21 MeV B. 0.51 MeV C. 1.51 MeV D. 1.21 MeV
343	The phenomenon of Compton's effect process that right has	A. Wave nature B. Particle nature C. Dual nature D. Corpuscular nature
344	A gama ray of energy 1900 MeV is absorbed by	A. Proton antiproton pair B. Electron positron pair C. Producing heat in the substance D. The orbit
345	Which of the following wavelength lies in X-rays region.	A. 1 A B. 100 A C. 1,000 A D. 10,000 A
346	In a cloud chamber the Alpha particles leave	A. Dense, straight and continuous tracks B. Only straight and continuous tracks C. Thin and discontinuous tracks D. Irregular tracks
347	Why hydrogen atom does not emit x-rays.	A. its size is very small B. It contains only single electron C. In it energy levels are for apart D. In it energy levels are close to each other
348	White light a tungsten filament lamp is passed through sodium vapor and viewed through a diffraction gritting Which of the following best describes the spectrum which would be seen.	A. Coloured lines on a black background B. Coloured lines on a white background C. Dark lines on a coloured background D. Dark lines on a white background
349	Which given element has lowest work function	A. Na B. Al C. si D. C
350	The process of conversation of a photon into an electron and a position is called.	A. Pair annihilations B. Pair production C. Photoelectric effect D. Compton effect
351	The particles equal in mass or greater than protons are called.	A. Mesons B. Bosons C. Baryons D. Nucleons
352	Ebers-Moll model describes the working of a	A. BJT B. FET C. MOSFET D. UJT
353	The energy delivered to the tissue per unit mass is called the absorbed dose of.	A. X rays B. gama rays C. Radiation D. energy
354	Transistor stands for	A. Transfer of resistance B. Transfer of current C. Transfer of power D. Transfer of voltage

355	The photons emitted in inner shell transition are.	A. Alpha particle B. Beta particle C. Gama particle D. Characteristic X-rays
356	Mass -energy relation means that the product of mass times the square of the speed of light must be equal to.	A. Torque B. Momentum C. Energy D. Impulse
357	Cs - 137 is a radioisotope used ot determine the thickness of the walls of steel pipes Cs 137 is chosen because it emits	A. Radiowaves B. Alpha particles C. Beta particles D. gama particles
358	When an electron and a positron are annihilated, then number of protons produced is.	A. 1 B. 2 C. 3 D. 4
359	Which is the famous standard model of the universe.	A. the big bang B. Casmos C. Astronaut D. The small stap
360	The minimum amount of energy in an individual electron has to gain to escape from a particular surface is called.	A. Threshold frequency B. work function C. Wave number D. Kinetic energy
361	The converse of pair production is	A. Annihilation of matter B. Materialization C. Compton effect D. Photo electric effect
362	When Be is bombarded by alpha particles, then we obtain	A. electron B. Proton C. Positron D. Neutron
363	The binding energy to pull the deuterium H apart into a proton and a neutron is equal to.	A. 1.22 MeV B. 2.22 MeV C. 3.22 Mev D. 4.22 MeV
364	LASER beam my be measure very large distance because it is.	A. Inidirectional B. coherent C. Monochromatic D. Not absorbed
365	The angle of scattering for which the Compton shift is maximum is.	A. 0^o B. 45 ^o C. 80 o D. 180^o
366	Alpha particles are used for the treatment of skin of a patient due to.	A. Highly ionizing power B. Low penetration power C. Positively charged particles D. Helium nucler
367	Negative feedback	A. Increases stability B. Decreases stability C. Produces oscillatory D. Cannot occur
368	The charge on a helium nucleus is equal to the charge of.	A. Two electrons B. Two protons C. Two neutrons D. One proton
369	The advantage of electron tube over a transistor is.	A. Its high efficiency B. Its high gain C. Low consumption of power D. Low input impedance
370	Which of the following are electromagnetic waves.	A. Alpha particles B. Beta particles C. Gama rays D. Water waves
371	The term used for the emission of electrons when light strikes a surface.	A. The zeeman effect B. The photo electric effect C. Skin effect D. Compton effect
372	At room temperature the potential difference between the two sides of depletion region for silicon is of the order of.	A. 0.3 v B. 0.5 V C. 0.7 V D. 0.9 V

373	Half life of a radioactive elements 10 minutes If the initial cont. rate is 368 counts per minute for what time count rate reaches 32 counts per minute.	A. 20 minutes B. 40 minutes C. 80 minutes D. 120 minutes
374	The possible values of principal quantum number are.	A. only zero B. 0,1,2,.....7 C. 1,2,3.....8 D. 2,3,4,6.....10
375	The wavelength of X-rays is of the ofder of.	A. 10⁻¹⁴ m B. 10⁻¹⁰ m C. 10⁻⁹ m D. 10⁻⁶ m
376	Current gain of a CE amplifier is 50, ITS hfe is about	A. 25 B. 50 C. 75 D. 100
377	The two elements with same number of electrons but different mass number are called.	A. Isotones B. Isobars C. Isotopes D. Isomers
378	The SI unit of radioactivity is.	A. Becquerl B. Curie C. Joule D. rutherford
379	For an electron or position the rest mass energy is equal to.	A. 0.21 MeV B. 0.51 MeV C. 1.51 MeV D. 1.21 MeV
380	The output of two input OR gate is zero only when its.	A. Either input is one B. Either input is zero C. Both inputs are zero D. Both inputs are one
381	The constant lamda is called the.	A. Decay constant B. Gas constant C. Planck's constant D. Dose constant
382	The most readily fissionable isotope of uranium has atomic mass of	A. 234 B. 235 C. 236 D. 238
383	As the mass number increases, the binding energy per nucleon in a nucleus	A. Increases B. Decreases C. Remain constant D. Varies in a way that depends upon A
384	In order to reduce uncertainty in momentum one must use light of.	A. Short wavelength B. Large wavelength C. Wavelength of intermediate value D. Wavelength of any value
385	Lines of Balmer series are emitted by hydrogen atom when the electron jumps from	A. The first orbit to any other orbit B. Higher orbits to second orbit C. Higher orbits to first orbit D. The third orbit to higher orbit
386	Which of the following is not a mode of radioactive decay	A. Nuclear fusion B. Alpha decay C. Electron capture D. Positron emission
387	In scattering experiment which force scatters alpha particle.	A. Nuclear force B. Coulomb's force C. Gravitational force D. Centripetal force
388	The Inner electrons in heavy atoms can be disturbed and dislodged by.	A. X rays B. Alpha particle C. Beta particles D. gama particles
389	A single quantum of electromagnetic radiation is termed as.	A. Compton B. Photon C. Hyperon D. Meson
390	The result of the alpha particle scattering experiment gave evidence for which of the	A. Nuclear fusion B. Radio active decay

390	following.	C. Existence of isotopes D. Nuclear atom
391	Ashes from a campfire deep in a cave show carbon -14 activity of only one eighth the activity of fresh wood. How long ago was that campfire made.	A. 13590 years B. 15190 years C. 17190 years D. 21190 years
392	The total energy of an electron in an orbit around the nucleus is.	A. Zero B. Unity C. Infinity D. Negative
393	Marie Curie and Pierre Curie discovered two new radioactive elements which are.	A. Uranium and radkum B. Platinum and radium C. Polonium and radium D. Crypton and radon
394	When Photon incident on a metal produce the emission of electrons the process is called.	A. Photo electric effect B. Pair production C. x-rays production D. Gama ray production
395	There are how many types of forces or interactions.	A. Two B. Three C. Four D. Five
396	Binding energy per nucleon is.	A. Greatest for heavy nuclei B. Least for heavy nuclei C. Greatest for light nuclei D. Greatest for medium weight nuclei
397	A unijunction transistor	A. Has only one junction B. Is a two terminal device C. Is fabricated from germanium D. Is fabricated fromuranium
398	The SI unit of decay constant is.	A. m B. m-1 C. s-1 D. N m-1
399	Bohr's atomic model assumes	A. Nucleus is of infinite mass and is at rest B. electron in a quantized orbit will not radiate energy C. Mass of electron remains the same D. All of the above
400	The energy in electron volts necessary to remove the most loosely bound electron from the neutral atom is known as.	A. Faraday energy B. Wave number C. Ionization Potential D. Excitation potential
401	How much large is the proton mass than the electron mass.	A. 1536 B. 1636 C. 1736 D. 1836
402	Most widely used types of gas LASER are	A. Neon B. Argon ion C. Helium D. All of these
403	Choose the one which acts as single inverter.	A. Common emitter B. common collector C. Common base D. Diode