

# X STANDARD

## QUESTIONS' BANK

FOR MESSAGES ONLY

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SCIENCE MULTIPLE CHOICE QUESTIONS

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1. "A current carrying conductor experiences a mechanical force in a magnetic field." The device which works on this principle is a/an
  - A. electric motor
  - B. A.C. dynamo
  - C. D.C. dynamo
  - D. commutator.
2. 'Volt' is the unit of which of the following quantities ?
  - A. Electric current and potential difference
  - B. Potential difference and electromotive force
  - C. Electromotive force and electrical resistance
  - D. Electrical resistance and electric current.
3. Dr. Sahana has to treat her patient who is suffering from rickets. The electromagnetic radiation to be used for this treatment is
  - A. ultraviolet radiations of high frequency
  - B. infrared rays of high frequency
  - C. ultraviolet radiations of low frequency
  - D. infrared rays of low frequency.
4. North pole of a bar magnet is continuously thrust in and pulled out of the coil of conductor connected to a galvanometer several times, then the pointer of the galvanometer
  - A. remains at zero
  - B. deflects on either side of the zero
  - C. moves towards the left side of the zero
  - D. deflects towards the right side of the zero.
5. A reverse biased *p-n* junction offers a high resistance, because
  - A. charge carriers flow across the junction
  - B. the cell used supplies direct current
  - C. charge carriers flow in the same direction
  - D. charge carriers are repelled away from the junction.
6. The two major parts in total radio broadcasting system are
  - A. microphone and mixer
  - B. speaker and detector
  - C. transmitter and receiver
  - D. speaker and receiving antenna
7. If there is voltage fluctuation in domestic circuit, the device that you use to regulate voltage in an electrical appliance is
  - A. a transducer
  - B. an oscillator
  - C. a diode
  - D. a detector.
8. A cyclist while going round a curve leans towards the centre of the curve to get necessary
  - A. centrifugal force
  - B. centripetal force
  - C. gravitational force
  - D. centrifugal reaction.
9. The device that can be fitted to the engine of a bus to prevent the driver from driving it with overspeed is
  - A. centrifugal pump
  - B. centrifuge
  - C. centrifugal drying machine
  - D. centrifugal governor.
10. For a satellite orbiting the earth, centripetal force is provided by
  - A. the place of launch
  - B. gravitational force
  - C. the size of the satellite
  - D. mass of the satellite.
11. The value of '*g*'
  - A. does not depend on the mass of the object
  - B. is proportional to the mass of the object
  - C. does not depend on the mass of the earth
  - D. does not depend upon the radius of the

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9900769891

earth.

12. A cyclist riding a cycle fitted with a dynamo to a tyre gets bright light in the bulb connected,

when he pedals fast. This is because,

A. magnet becomes powerful, when wheel rotates faster and current flows fast

B. current flows easily when cycle goes fast

C. more magnetic lines of force change with respect to the coil and leading to more current

D. coil becomes hot due to friction and produces more current.

13. A person wrongly uses infrared rays to detect a flaw in a machine part. The correct radiation he

should be using is,

A. X-ray B. ultra-violet ray C. micro-wave D. visible light.

14. The factor that *does not* contribute for the dispersion of light in a glass prism, is

A. the prism is transparent B. double refraction takes place

C. light gets reflected by the prism D. white light is made of several colours.

15. A student wants to get a band of distinct seven colours occupying their respective positions using

a glass prism. The device that he can select for this purpose is a

A. Telescope B. Spectroscope C. Microscope D. Binocular.

16. Doppler effect in sound is observed as a change in its

A. pitch B. velocity C. amplitude D. speed.

17. The ultrasound signal sent in water by a boat takes 3 seconds to return. If the velocity of sound in

water is 1.5 km/sec, the distance travelled by the signal is

A. 2.25 kms B. 4.5 kms C. 6 kms D. 9 kms.

18. The red shift of galaxies show that the

A. universe is contracting B. galaxies are coming towards us

C. velocity of light changes D. universe is expanding.

19. The matter that streams out of the sun's surface in bursts like thunderstorms is

A. granulation B. spicule C. solar flare D. solar prominence.

20. The magnitudes of four stars P, Q, R and S are respectively 0, -5, +5 and -10. The brightest star

among them is

A. S B. R C. Q D. P.

21. Machine parts in an industry are to be checked for defects. The radio-isotope used for this

purpose is

A. Radio-Iodine B. Radio-Iridium C. Radio-Carbon D. Radio-Phosphorous.

22. Which of the following has 146 neutrons ?

A.  ${}_{92}\text{U}^{235}$  B.  ${}_{88}\text{Ra}^{226}$  C.  ${}_{86}\text{Rn}^{222}$  D.  ${}_{92}\text{U}^{238}$

23. Tritium nucleus contains

A. three protons B. one proton and two neutrons

C. two protons and one neutron D. three neutrons.

24. The light absorbing material used in a solar cell is

A. silicon B. phosphorous C. carbon D. radium.

25. The technique which established that the sun is made of mostly hydrogen is

A. spectrum analysis B. chemical analysis C. scanning D. laser ranging.

26. The fuel used in gobar gas plant is  
A. animal dung B. firewood C. coal D. charcoal.
27. Brass, German silver and Gunmetal are the alloys of copper. Apart from copper the other common metal in them is  
A. zinc B. tin C. iron D. nickel.
28. You are required to arrange Fe, Zn and Mg in the increasing order of their reactivity. The correct arrangement is  
A. Mg, Zn, Fe B. Fe, Mg, Zn C. Fe, Zn, Mg D. Zn, Mg, Fe.
29. Sodium aluminium silicate is also called  
A. washing soda B. silicone C. water glass D. zeolite.
30. Name of this structure is  
A. propyne B. propane C. cyclopropane D. propene.
31. During the extraction of silicon from quartz, unchanged silica is removed by using  
A. Hydrochloric acid B. Hydrofluoric acid C. Nitric acid D. Sulphuric acid.
32. The permitted level of emission of carbon monoxide of my vehicle is 3%. My vehicle is  
A. a scooter B. a lorry C. an auto-rickshaw D. a car.
33. The chemical which is mixed with L.P.G. to detect the leakage of the gas is  
A. Methyl Mercaptan B. Benzyl Mercaptan C. Ethyl Mercaptan D. Propyl Mercaptan.
34. During the manufacture of glass, molten glass is cooled slowly to make it  
A. more brittle B. colourful C. withstand high temperature D. more brittleness.
35. The polymer that can be used as gasket of a pressure cooker is  
A. Thiokol B. Teflon C. nylon D. neoprene.
36. Raw materials used in the manufacture of cement are  
A. clay and washing soda B. clay and limestone  
C. washing soda and limestone D. calcium silicate and clay.
37. Which of the following is a soap ?  
A. Sodium sulphate B. Sodium stearate C. Sodium chloride D. Sodium nitrate.
38. Which among the following is *not* a method of conservation of water ?  
A. Growing trees and conserving soil B. Using improved method of farming  
C. Removing the forests and constructing lakes D. Collecting the roof water and using it.
39. During the preparation of soap the liquid separated by distillation is  
A. sodium hydroxide B. oil C. stearic acid D. glycerol.
40. Two chambered heart is found in  
A. pisces B. amphibians C. reptiles D. aves.
41. Which one of the following is deliberate adulteration ?  
A. Coating of pesticides on fruits B. Rice like stones in rice  
C. Grass in coriander D. Dust in foodgrains.
42. Prothallus is an independent structure of  
A. gametophyte of bryophytes B. sporophyte of bryophytes  
C. gametophyte of pteridophytes D. sporophyte of pteridophytes.
43. Embryonic cells which always divide and form new cells are found in  
A. meristem B. parenchyma C. collenchyma D. sclerenchyma.

44. Which one of the following is an imperfect cycle ?  
 A. Carbon cycle    B. Oxygen cycle    C. Phosphorus cycle    D. Nitrogen cycle.
45. The type of leaf venation shown in the figure is found in plants of  
 A. ragi    B. mustard    C. wheat    D. maize.
46. While developing a good public hospital, the management gives priority to  
 A. large open field around the hospital    B. parking space for all types of public vehicles  
 C. a garden with good number of shady trees  
 D. space for caterer who supply food at cheap rates.
47. Epithelium tissue in Alveoli and blood capillaries referred as endothelium is  
 A. columnar epithelium    B. squamous epithelium  
 C. ciliated epithelium    D. cuboid epithelium.
48. Adulteration of food means  
 A. processing of food    B. transportation of food  
 C. storage of food    D. removing nutritive value of food.
49. Denitrification is the process of  
 A. fixing nitrogen in the soil    B. changing proteins into ammonium salts  
 C. conversion of ammonium salts into nitrates    D. changing nitrates into free nitrogen.
50. Due to low secretion of insulin in the body, a person will have  
 A. low blood pressure    B. high blood pressure  
 C. high sugar level in the blood    D. low sugar level in the blood.
51. Now the government policy is to discourage use of plastic bags. The scientific reason for this is  
 that they are  
 A. non-biodegradable but non-toxic    B. biodegradable  
 C. non-biodegradable    D. biodegradable but toxic.
52. One of the main symptoms of Hepatitis-B is  
 A. body weight loss  
 B. profuse sweating    C. burning sensation in trachea    D. indication of jaundice.
53. When concentrated nitric acid is added to a sample of cooking oil to detect the adulteration it  
 Turns  
 A. yellow in colour    B. black in colour  
 C. reddish brown in colour    D. yellowish brown in colour.
54. Production of genetically similar organisms inside or outside the body is  
 A. tissue culturing    B. cloning    C. genetic engineering    D. recombinant DNA technology.
55. The tissue that helps in defence of the body by engulfing bacteria and digesting toxic substances is  
 A. adipose tissue    B. reticular tissue    C. areolar tissue    D. cartilage tissue.
56. Cerebrum controls which one of the following functions ?  
 A. Reasoning    B. Mastication    C. Walking    D. Vomiting.
57. HIV ultimately destroys which one of the following ?  
 A. Liver and pancreas    B. Production of proteins    C. Defence mechanism    D. Enzyme secretion.
58. Genetic relation between a father and a son is determined by a technique of  
 A. genetic engineering    B. DNA fingerprint technology    C. tissue culturing    D.

cloning.

59. The outermost layer of the eyeball is A. conjunctiva B. sclera C. choroid D. retina.

60. An HIV positive mother should not

A. kiss the child B. breast-feed the child C. carry the child D. bathe the child.

61. The frequency of a radiowave, having a wavelength of 300 m is

A.  $10^6$  Hz B.  $10^6$  kHz C.  $10^6$  km D.  $10^6$  m.

62. In the radio transmission the process of superimposing A.F. signals on R.F. wave is called

A. modulation B. demodulation C. rectification D. amplification.

63. Which one of the following is an application of centrifugal reaction ?

A. Separating butter from curds with a churner B. Separation of petroleum products

C. Concentration of haematite ore D. Drying clothes in sun.

64. If a string whirling with a stone snaps, then the motion of the stone will be

A. in the direction of the circular motion B. towards the centre of the circular path

C. tangential to the circular path D. opposite to the direction of the circular

path.

65. If the distance between two heavenly bodies increases by two times then the gravitational force

between them A. decreases by 4 times B. increases by 4 times

C. decreases by 12 times D. increases by 2 times.

66. Which one of the following is true if an object is falling freely under gravity ?

A. Its mass decreases B. It experiences weightlessness

C. Its weight increases D. Its mass becomes zero.

67. Rayleigh scattering of light is called coherent because

A. there is change in the wavelength of light B. there is change in the frequency of

light

C. there is no change in the wavelength of light

D. there is change in both frequency and wavelength of light.

68. While studying Raman effect, a person uses light from the fluorescent lamp. To correct this

mistake, he must use light from the source,

A. tungsten filament lamp B. sun

C. sunlight passed through a lens D. monochromatic sodium vapour lamp.

69. Rainbow is an example for the spectrum of the type

A. pure B. impure C. line emission D. line absorption.

70. Ultrasound signal sent by a sonar situated at the surface of ocean takes 6 seconds to return from the

floor of the ocean. The depth of the ocean floor is

A. 4.5 km B. 0.45 km C. 9.5 km D. 45 km.

71. The radar gun used by traffic police to detect the overspeeding vehicles, works on the principle of

Doppler effect. The wave used is

A. Radiowave B. Soundwave C. Visible light D. Ultrasonic.

72. The colour of the star having highest temperature is

A. red B. yellow C. yellowish white D. bluish white.

73. Relatively low temperature regions on the surface of the sun are caused by

- A. magnetic activities below photosphere      B. thermonuclear fusion reaction  
 C. nuclear fission reaction      D. ionisation of gases.
74. In the evolution of stars, heavy elements like iron are formed during the stage,  
 A. Protostar    B. Red giant    C. Steady state    D. Supernova.
75.  $^{100}_{30}\text{X}$  is a radioactive element. It transmutes into element Y after emitting an alpha particle.  
 The element Y can be written as  
 A.  $^{101}_{30}\text{Y}$     B.  $^{102}_{28}\text{Y}$     C.  $^{98}_{28}\text{Y}$     D.  $^{98}_{30}\text{Y}$ .
76. The moderator in a nuclear plant is usually made of  
 A. graphite      B. cadmium      C. water      D. sodium.
77. Radiation hazard may cause the disease,  
 A. Leukemia      B. Cholera    C. Typhoid    D. Night blindness.
78. In a solar water heater the copper pipe is painted black because it helps  
 A. in better absorption of light    B. to prevent corrosion  
 C. to radiate heat to the surrounding    D. in the absorption of heat by water.
79. The reason for the enormous output of energy from the sun is  
 A. combustion of hydrogen gas      B. fission of helium nuclei  
 C. fusion of hydrogen nuclei      D. friction between hydrogen atoms.
80. Which one of the following is a method of increasing the weight of the body on earth without changing the mass ?  
 A. Taking the body to the poles      B. Powdering the body  
 C. Cooling it below  $0^{\circ}\text{C}$       D. Magnetising the body.
81. Now-a-days people prefer to use compact fluorescent tube more because  
 A. they can be easily produced      B. they save electrical energy  
 C. they are produced in the small scale industries      D. they give more light with less heat.
82. Which of the following ores is a carbonate ore of iron?  
 A. Haematite    B. Magnetite    C. Limonite    D. Siderite.
83. The best combination of metal and an acid to prepare hydrogen gas is  
 A. copper and nitric acid      B. copper and dilute hydrochloric acid  
 C. zinc and dilute hydrochloric acid      D. copper and dilute sulphuric acid.
84. In the extraction of amorphous silicon, magnesium is used as a reducing agent. The product is washed with hydrofluoric acid, to remove  
 A. extra magnesium      B. unchanged silica    C. amorphous silicon    D. extra quartz.
85. Though silicon is a non-metal, when warmed it becomes a semiconductor due to  
 A. electrons released by breaking of covalent bonds  
 B. electrons released by breaking of ionic bonds  
 C. movement of electrons of innermost orbitals  
 D. formation of covalent bonds.
86. An officer during an emission test on a car, detects more than 10% of carbon monoxide. This could be due to  
 A. the quantity of oxygen supplied is more      B. heat released is more  
 C. complete combustion of fuel      D. incomplete combustion of fuel.
87. A benzene ring structure could be changed to toluene by  
 A. adding  $\text{CH}_3$  group      B. replacing H by  $\text{CH}_3$  group

- C. replacing H by CH group      D. adding NO<sub>2</sub> group.
88. A manufacturer of cooking utensils wants to fix plastic handles to them. The plastic he can select is  
 A. PVC      B. Polythene      C. Bakelite      D. Nylon.
89. The gaseous product released during the manufacturing of soda glass is  
 A. Carbon dioxide      B. Sulphur dioxide      C. Nitrogen dioxide      D. Nitric oxide.
90. Cement containing higher percentage of gypsum than required,  
 A. sets slowly      B. sets rapidly      C. does not set at all      D. gets higher strength.
91. The ion which can be removed by Permutit process is  
 A. Lead      B. Calcium      C. Iron      D. Manganese.
92. The by-product of the process of saponification is  
 A. Methanol      B. Glycol      C. Glycerol      D. Sodium hydroxide.
93. In the process of preparation of detergents, the organic acids produced are neutralized with  
 A. sodium hydroxide      B. sodium sulphate      C. sodium chloride      D. sodium nitrate.
94. The plant that possesses Reticulate Venation is  
 A. Paddy      B. Mustard      C. Ragi      D. Jowar.
95. An example for Pteridophyta is  
 A. Adiantum      B. Funaria      C. Riccia      D. Marchantia.
96. The number of chambers in the heart of tortoise is  
 A. two      B. three      C. four      D. five.
97. The type of epithelial tissue found in the inner layer of the small intestine is  
 A. Squamous epithelium      B. Columnar epithelium  
 C. Ciliated epithelium      D. Cuboidal epithelium.
98. Meristematic tissue is not found in  
 A. Bark      B. Root tip      C. Stem apex      D. Buds.
99. The tissue which gives shape, support, protection and helps in movement is  
 A. Epithelial tissue      B. Muscular tissue      C. Bone tissue      D. Nervous tissue.
100. In nervous system, spinal nerves are the basic components of  
 A. central nervous system      B. peripheral nervous system  
 C. sympathetic system      D. para-sympathetic system.
101. The excess secretion of growth hormone in adults causes  
 A. Acromegaly      B. Gigantism      C. Dwarfism      D. Cretinism.
102. The part of the inner ear, concerned with balancing of the body is  
 A. Utriculus      B. Sacculus      C. Cochlea      D. Organ of Corti.
103. HIV is covered with double layered membrane which is made up of  
 A. Carbohydrates      B. Fats      C. Proteins      D. Minerals.
104. HIV is transmitted by  
 A. sharing food with AIDS patient      B. shaking hands with AIDS patient  
 C. using common toilets      D. sharing unsterilized syringes used by AIDS patient.
105. The part of the digestive system which is affected by Hepatitis-B, is  
 A. Stomach      B. Pancreas      C. Intestine      D. Liver.
106. Food adulteration means  
 A. weighing less quantity      B. adding substances of inferior quality  
 C. adding more vital components      D. weighing with polythene cover.



107. Which is an accidental adulteration ?  
 A. Stones in rice                      B. Talcum powder in wheat flour  
 C. Jaggery in honey                    D. Vegetables with traces of insecticides.
108. The common adulterant found in Red Chilli powder is  
 A. coloured saw dust                  B. used tea powder    C. metanil yellow    D. papaya seeds powder.
109. A biotic component of environment is  
 A. Bacteria    B. Water        C. Air            D. Soil.
110. The organism that does not involve directly in the fixation of nitrogen, is  
 A. Anabaena    B. Diatom        C. Nostoc        D. Leguminous plant.
111. The gaseous pollutant, more responsible for acid rain, is  
 A. sulphur dioxide    B. carbon dioxide    C. carbon monoxide    D. nitrogen oxide.
112. The biodegradable pollutant is    A. DDT        B. glass        C. wood        D. plastic.
113. The world's first clone is            A. Sheep        B. Hen        C. Cow        D. Buffalo.
114. The type of Biotechnology applied in Forensic Science is  
 A. Genetic Engineering    B. DNA fingerprint technology    C. Tissue culture    D. Cloning.
115. The important application of electromagnetic radiation of wavelength 400 nm to 750 nm is,  
 A. sterilization    B. to detect fracture of bones    C. photosynthesis    D. to detect artificial gems
116. In the device used in exposure meters the electrons are ejected by the following energy  
 A. heat energy    B. friction energy    C. chemical energy    D. light energy
117. If the efficiency of a heat engine which uses 800 kJ heat energy to do a work is 40%. Then the loss of heat energy is,  
 A. 320 kJ    B. 480 kJ    C. 200 kJ    D. 400 kJ
118. The device used in separating proteins, hormones, viruses from a liquid medium is  
 A. Fractionating column    B. Centrifugal governor    C. Centrifuge    D. Filtration apparatus.
119. Doppler effect of light can be applied in the study of the following  
 A. The velocity of submarines    B. Speed of galaxies  
 C. Pollutants in the atmosphere    D. Crystal structure.
120. An example for a reaction in which the nucleus of an atom undergoes change is  
 A. Photosynthesis                      B. Combustion of carbon in air  
 C. Reaction of Sodium in water    D. Fission chain reaction of uranium.
121.  $2C_4H_{10} + 13O_2 \rightarrow 8CO_2 + 10 H_2O + \text{Energy}$ . In this reaction the mass of oxygen required for the complete combustion of one mole of butane is  
 A. 16            B. 416            C. 208            D. 32
122. The acid related to the preparation of detergent is  
 A. Stearic acid        B. Hydrochloric acid        C. Nitric acid        D. Sulphuric acid
123. The following is not used to manufacture soap,  
 A. Coconut oil        B. Kerosine oil        C. Castor oil    D. Palm oil.
124. Cement is used as building material because it  
 A. is a good binding agent                      B. sets rapidly  
 C. is prepared from cheap raw materials    D. withstands high temperature.
125. Which of the following group of plants bear Inflorescence.

A. Bryophytes      B. Pteridophytes      C. Gymnosperms      D. Angiosperms

126. The egg shell of birds may break easily if one of the following is insufficient.

A. Magnesium carbonate      B. Ferrous sulphate      C. Calcium carbonate      D. Calcium bicarbonate.

127. One of the main function of Parenchyma tissue is, It

A. Supports other tissues      B. Takes part in Photosynthesis  
C. Gives tensile strength to the plant body      D. Conducts water to different parts of the plant body.

128. The function of Adipose tissue can be compared to, Heat

A. Regulator      B. Insulator      C. Conductor      D. Generator

129. Which of the following life processes may be affected if the two cells around the stomata not function.

A. Respiration and Growth      B. Transpiration and Respiration  
C. Respiration and Reproduction      D. Transpiration and Food conduction.

130. In an external combustion engine the part which converts linear motion into rotation is

A. crankshaft      B. cylinder      C. piston      D. connecting rod.

131. The efficiency of diesel engine is usually expressed as

A.  $\frac{\text{heat supplied}}{\text{work done}} \times 100$       B.  $\frac{\text{work done}}{\text{heat supplied}} \times 100$       C.  $\frac{\text{work done}}{\text{heat released}} \times 100$       D.  $\frac{\text{work done}}{\text{heat released}} \times 100$

132. Kiran who is reading in the classroom finds out whether a teacher is coming near the classroom or

not even if he cannot see the teacher. It is because he

A. knows about sonar      B. knows about ultrasonics  
C. is aware of Doppler effect      D. knows about frequency and wavelength.

133. The ill-effect experienced by the people of Japan even today after the explosion of atom bomb

during Second World War is

A. Premature cataract      B. Skin cancer      C. Genetic disorder      D. Hepatitis.

134. When X-rays are passed through a body one can know about broken bones because

A. bones are opaque to X-rays      B. X-rays give pain when fallen on the broken part  
C. the broken part of the bone shines      D. the broken part of the bone vibrates when X-rays fall on it.

135. In modern drinking water purifiers bacteria-free water is obtained by which of the following

electromagnetic radiations ?

A. Radio waves      B. Ultraviolet rays      C. Gamma rays      D. X-rays.

136. Emission test should be conducted for vehicles which use liquefied petroleum gas to detect which

poisonous gas ?

A. Carbon dioxide      B. Sulphur dioxide      C. Carbon monoxide      D. Nitrogen dioxide.

137. Lead glass is used in the preparation of lenses because it has good transparent nature in addition to

which of the following properties ?

A. It has high refractive index      B. It can withstand stress  
C. It can tolerate variation of temperature      D. It is light and strong.

138. Another chemical substance that should be heated with fatty oil in the manufacture of soap is  
 A. Sodium chloride    B. Sodium sulphate    C. Calcium sulphate    D. Sodium hydroxide.
139. Sodium N-dodecyl Benzene Sulphonate, which is prepared from petroleum, can  
 A. produce scum in hard water    B. clean in hard water  
 C. not cause water pollution    D. remove salt from water.
140. A plant which has multicellular cone like structure is  
 A. Angiosperm    B. Gymnosperm    C. Bryophyte    D. Pteridophyte.
141. An animal tissue structured to engulf micro-organism and foreign bodies is  
 A. Connective tissue    B. Areolar tissue    C. Adipose tissue    D. Bone tissue.
142. The part of the brain which controls mastication and facial expression is  
 A. Cerebrum    B. Cerebellum    C. Pons    D. Hypothalamus.
143. A person has defective teeth and protruded tongue. This is due to the hypo-secretion of the hormone namely  
 A. Thyroxine    B. Parathormone    C. Insulin    D. Glucagon.
144. In a protected forest if all the carnivores are transferred, then the significant change would be  
 A. increase in vegetation    B. decrease in vegetation  
 C. no change in the number of herbivores    D. tourism will improve.
145. The photograph of the dense material in the human body is to be taken. The characteristic of the rays used for this purpose is  
 A. low frequency    B. higher wavelength    C. short wavelength    D. less velocity than light.
146. Metal sheet *A* is exposed to one type of radiation and metal sheet *B* is exposed to another type of radiation. The velocity of the photoelectrons emitted by *A* is more than that of *B*. Then which one of the following possibilities is true ?  
 A. *A* is exposed to visible light and *B* to ultraviolet rays  
 B. *A* is exposed to ultraviolet rays and *B* to visible light  
 C. *A* is exposed to infrared rays and *B* to *X*-rays  
 D. *A* is exposed to radio waves and *B* to gamma rays.
147. When creamy curd is churned in a centrifuge the butter particles congregate at the centre of the rotating medium. This is because  
 A. butter particles experience greater centrifugal reaction  
 B. butter particles experience less centrifugal reaction  
 C. butter particles experience no centrifugal reaction  
 D. butter particles and the particles of the medium experience the same centrifugal reaction.
148. A traffic police has to detect the vehicle crossing the speed limit. Which of the following units is related to the characteristic of the wave used ?

A. hertz    B. parsec    C. angstrom    D. newton.

149. The remnant at the end of supernova of a star with mass 30 times that of the sun gets compressed

to a small volume. Then it is a

A. White dwarf    B. Pulsar    C. Neutron star    D. Black hole.

150. The process of converting benzene to toluene is by the substitution of

A.  $\text{CH}_2$  in place of C    B.  $\text{CH}_2$  in place of H  
C.  $\text{CH}_3$  in place of C    D.  $\text{CH}_3$  in place of H.

151. An automobile owner should prefer  $\text{C}_4\text{H}_{10}$  to  $\text{C}_8\text{H}_{18}$  as a fuel, because  $\text{C}_4\text{H}_{10}$  has a

A. low molecular mass and is more volatile    B. high molecular mass and is more volatile

C. high molecular mass and is less volatile    D. low molecular mass and is less volatile.

152. A supervisor in a factory forgets to add gypsum to cement while manufacturing cement. If the

cement so produced is mixed with water, then it

A. sets slowly    B. sets rapidly    C. loses setting property    D. loses colour slowly.

153. Detergent mixed with water should not be allowed to mix with river water, because, detergents are

A. lather producer with water    B. bio-degradable    C. non-biodegradable    D. insoluble in water.

154. During saponification, the method of separating glycerol is

A. filtration    B. crystallization    C. distillation    D. decantation.

155. A vertebrate having a diaphragm is

A. Seahorse    B. Ichthyophis    C. Pigeon    D. Bat.

156. The part of an eye responsible for the colour of the eye is

A. Vitreous humour    B. Aqueous humour    C. Iris    D. Cornea.

157. A person has watery fluid collected in some parts of the body with paralysed limbs. This is the

symptom of the disease

A. Simple goitre    B. Myxedema    C. Dropsy    D. Diabetes.

158. The possibility of developing Jaundice is high in the Hepatitis-B patient. This is because

A. the bilirubin discharged from the liver is released to the blood

B. W.B.C.s in blood turn to yellow colour

C. platelets undergo chemical reaction causing Jaundice

D. the quantity of serum increases in the blood.

159. The scientist who developed the world's first clone of sheep is

A. Edward Jenner    B. Wilmut    C. Louis Pasteur    D. Robert Hooke.

160. It is a good practice to make children play for sometimes in the morning sunlight. By this practice

body gains    A. Vitamin B    B. Vitamin C    C. Vitamin D    D. Vitamin A.

161. The distance between moon and the earth can be determined by which of the following techniques

A. Laser ranging    B. Radiography    C. Sonar    D. Holography.

162. In which of the following strokes of the working of an internal combustion engine the inlet valve

is closed and the outlet valve is open ?

A. Intake stroke    B. Compression stroke    C. Power stroke    D. Exhaust stroke.

163. One disadvantage of internal combustion engine is

- A. it has low efficiency    B. there are chances of break-down of engine  
C. it releases more carbon monoxide    D. it releases more carbon dioxide.

164. Under which of the following circumstances it is more suitable to use ultrasound scanner ?

- A. To find fractured bone    B. To detect the metallic articles in a suitcase  
C. To study the working of heart    D. To find the defects of teeth.

165. The number of hydrogen atoms that should be removed from butane to make it butene is

- A. 2    B. 4    C. 6    D. 8.

166. Which of the following raw materials do you select to reduce the cost of manufacturing soap ?

- A. Crude oil    B. Coconut oil    C. Groundnut oil    D. Non-edible vegetable oil.

167. Raw materials used in the manufacture of detergents are

- A. vegetable oil, sodium hydroxide, long chain hydrocarbon  
B. long chain hydrocarbon, sodium hydroxide, sulphuric acid  
C. long chain hydrocarbon, vegetable oil, sulphuric acid  
D. vegetable oil, sodium hydroxide, sulphuric acid.

168. Pre-matured cataract in human beings is caused by

- A. radiowaves    B. ultrasonics    C. infrared rays    D. ultraviolet rays.

169. The bending of black absorber pipe in the form of coil in solar water heater

- A. increases the efficiency    B. enables water to flow easily  
C. retains water for long time in the pipe    D. increases area of absorption.

170. Which one of the following contains xanthophyll in excess ?

- A. Polysiphonia    B. Ectocarpus    C. Spirogyra    D. Ulothrix.

171. Individual can be identified using

- A. DNA fingerprint technology    B. Recombinant DNA technology  
C. Genetic engineering    D. Cloning technique.

172. A person is advised vitrectomy surgery. The gland which is not functioning properly is

- A. thyroid    B. islet of Langerhans    C. gonads    D. adrenal.

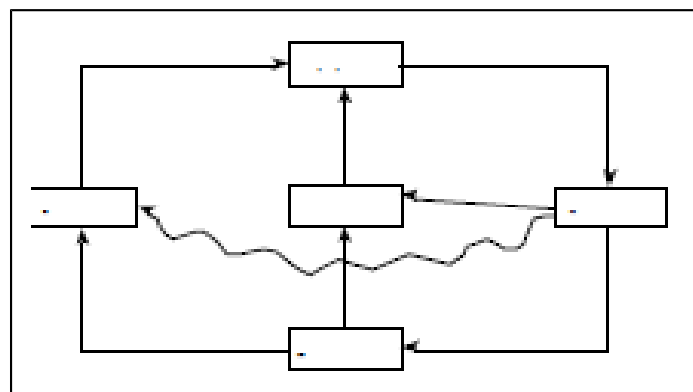
173. Fill in the box selecting the appropriate life process : C O, Death Plants, Animals

- A. Respiration    B. Nutrition  
C. Growth    D. Reproduction.

174. A person stammers. Part of the brain affected is

- A. thalamus    B. hypothalamus  
C. cerebellum    D. cerebrum.

175. A, B and C are the three coils of conductor having different number of turns, wound around a soft



iron ring as shown in the figure. Ends of coils *B* and *C* are connected to the galvanometers. The observation that can be made when ends of coil *A* are connected to an A.C. source is

A. same electric current is induced in *B* and *C* B. no electric current is induced in *B* and *C*  
C. induced electric current is more in *B* than in *C* D. induced electric current is less in *B* than in *C*.

176. The induced electromotive force increases when a magnet is moved fast in a stationary coil of

wire because,

- A. magnetic field increases B. rate of change of magnetic field increases  
C. rate of change of magnetic field decreases D. magnetic field decreases.

177. A photoelectric cell emits electrons when illuminated by a 60 W bulb. If the same cell is illuminated by replacing it with a 40 W bulb, the observation that can be made is

- A. no photoelectric effect takes place B. number of photoelectrons increases  
C. the kinetic energy of photoelectrons decreases D. number of photoelectrons decreases.

178. The defect in an engine is detected by using X-rays. The gamma radiation can also be used for the

same purpose because gamma radiation has,

- A. higher frequency than X-ray B. same frequency as that of X-ray  
C. higher wavelength than X-ray D. same wavelength as that of X-ray.

179. The transducer used in television transmission works on the principle of

- A. electromagnetic induction B. photoelectric effect  
C. Raman's effect D. Rayleigh's effect.

180. The source that gives line emission spectrum when subjected to dispersion is

- A. Molten iron B. Sun C. Mercury vapour D. Candle flame.

181. The application of Doppler effect of microwave among the following is

- A. Ultrasound scanner B. Echocardiography  
C. Tracking of artificial satellites D. Determining velocity of submarine.

182. Which of the following is not a good practice to conserve fuel ?

- A. Using public transport system B. Using motor bike to travel short distances  
C. Using bicycle to travel short distances D. Walking the short distances.

183. The ratio of number of moles of butane to the number of moles of oxygen necessary for complete

combustion of butane is

- A. 1 : 2 B. 2 : 3 C. 1 : 5 D. 2 : 13.

184. Human beings are interfering in bio-geochemical cycle by using

- A. soaps B. detergents C. paper D. cotton.

185. The blue pigment present in red algae along with phycoerythrin is

- A. Chlorophyll-*c* B. Phycocyanin C. Chlorophyll-*b* D. Xanthophyll.

186. If reverse transcriptase enzyme is absent in HIV then it

- A. cannot survive B. can synthesise DNA  
C. cannot synthesise DNA D. cannot adapt itself to the host.

187. Concentrated hydrochloric acid is added to a sample taken in a test-tube. After some

time, it turns

to crimson red. The sample is adulterated

A. cooking oil      B. ghee      C. turmeric powder      D. honey.

188. The microbe present in paddy fields which has the capacity to absorb and store atmospheric

nitrogen is

A. Rhizobium      B. Nitrobacter      C. Anabaena      D. Pseudomonas.

189. The technique of breaking DNA into fragments using specific enzymes and gel electrophoresis is

A. recombinant DNA technology      B. DNA fingerprint technology  
C. tissue culture      D. cloning.

190. Water is to be sterilized for drinking, without using any chemicals, this can be done by using,

A. UV rays      B. visible light      C. Radio waves      D. ultrasonic waves

191. An engineer wants to design an engine to convert 800 kJ of heat into 840kJ of useful mechanical

work. The correct statement related to the above engine is that

A. It is less efficient      B. It is more efficient      C. It cannot be designed      D. It is 100% efficient.

192. In a nuclear reactor, the numbers of cadmium rods used are less than the required number, then

one of the possibilities is

A. the reactor may explode      B. the chain reaction stops  
C. number of fissions will decrease      D. the number of neutrons decrease

193. In soap industry, the chemist forgets to add sodium chloride, during soap manufacturing, the

possible effect is

A. soap cannot be easily separated      B. chemical composition of soap changes  
C. soap will not get required colour      D. the solubility of soap decreases

194. Using sodium hydroxide, as one of the raw materials it is possible to prepare

A. soaps & detergents      B. cement & ceramics      C. glass & plastics      D. cement & glass

195. Unstability of a nucleus is because of

A. high proton-neutron ratio      B. high proton-electron ratio  
C. high electron-neutron ratio      D. low proton-electron ratio

196. Silicon is an insulator at absolute zero, because

A. the covalent bond is broken      B. the electron becomes delocalised  
C. all the electrons are bound to nucleus      D. it is an intrinsic semiconductor

197. Borosilicate glass is used in making laboratory equipments because,

A. it has high refractive index      B. it is highly transparent  
C. it can withstand temperature fluctuations      D. it fuses easily at low temperature

198. In a centrifuge, the particles of larger density,

A. move away from the axis      B. move towards the axis  
C. gets mixed with lighter particles      D. remain suspended

199. If the distance of the sun from the earth would have been twice the existing value then, the time

taken by light to reach earth would be about

- A. 4 minutes B. 8 minutes C. 16 minutes D. 80 seconds
200. When composite light is passed through a prism the colour in the spectrum with least deviation is  
A. red B. violet C. blue D. green
201. The metallic salt that comes in the way of forming lather with soap water is  
A. magnesium chloride B. sodium chloride C. sodium carbonate  
D. aluminium chloride.
202. Chloroprene is used in  
A. medical articles B. films C. gaskets D. coating vessels
203. In intrinsic semi-conductors  
A. number of holes are more than charges B. both holes and charges are equal  
C. number of holes are less than charges D. only charges are present
204. The functional group in toluene is  
A. OH B. CHO C. NH<sub>2</sub> D. CH<sub>3</sub>
205. The device used to obtain a pure spectrum of composite light is  
A. Telescope B. Collimeter C. Prism D. Spectroscope
206. The star of highest apparent brightness among the following is  
A. Magnitude -1 B. Magnitude 100 C. Magnitude 1 D. Magnitude 0
207. The main energy source for artificial satellites is  
A. solar heaters B. solar furnace C. solar cells D. solar panel
208. An example for denitrifying bacteria  
A. rhizobium B. nitrosomonas C. nitrobacter D. pseudomonas
209. A large part of the body weight in man is due to  
A. bone tissue B. cartilage tissue C. nervous tissue D. blood tissue
210. The animal tissue responsible to store fat as reserve food is  
A. Areolar tissue B. Adipose tissue C. Reticular tissue D. Cartilage tissue
211. One of the hormones secreted by adrenal cortex is  
A. adrenalin B. insulin C. cortisone D. thyroxin
212. Which of the following is not a quality guarantee mark for food products?  
A. FPO B. AGMARK C. FPA D. ISI
213. The part of the brain that regulates body temperature, water balance, appetite and sleep is  
A. cerebrum B. cerebellum C. thalamus D. hypothalamus
- 214 Ravi is a regular dialysis patient, he may get infected with  
A. brain fever B. tuberculosis C. AIDS D. Hepatitis-B
- 215 The algae having chlorophyll a and c along with xanthophylls belongs to  
A. red algae B. green algae C. brown algae D. yellow algae
- 216 Fleming's right hand rule is also called  
A. Screw Rule B. Motor Rule C. Thumb rule D. Dynamo rule
- 217 A photon is a  
A. Quantum of light energy B. Neutral particle  
C. Positively charged particle D. Negatively charged particle
- 218 If a semi-conductor is p-type, then which of the following impurity can be added to it  
A. Germanium B. Phosphorus C. Boron D. Silicon
- 219 A merry-go-round has a radius 3m and completes a revolution in 3 seconds, its acceleration is  
A.  $4\pi^2$  B.  $2\pi/3$  C.  $4\pi^2/3$  D.  $4\pi/3$
220. The planets move in elliptical orbits around the sun, with sun at one focus. This is  
A. I<sup>st</sup> Law of Newton B. Hubble's Law C. Kepler's Law D. III<sup>rd</sup> Law of Newton



221. The minimum velocity which is required for a body to escape the gravitational attraction of the earth is about  
 A. 11.2 m/s      B. 11.2 km/s      C. 11.2 m/h      D. 9.8 m/s
222. Which of the following has a carburettor?  
 A. Steam engine    B. diesel engine    C. diesel & petrol engine    D. petrol engine
223. The colour of the ray which comes out when a red ray of light is passed through a prism is  
 A. green      B. white      C. red      D. yellow
224. Which of these animals can hear ultrasound?  
 A. birds      B. man      C. bat      D. ant
225. The largest unit used to measure the stellar distance is  
 A. Kilometer    B. parsec      C. astronomical unit    D. light year
226. A positron is represented as      A.  ${}_{-1}n^0$       B.  ${}_{+1}n^0$       C.  ${}_{+1}e^0$       D.  ${}_{-1}e^0$
227. Heavy water is    A. deuterium oxide    B. tritium      C. deuterium    D. hydrogen peroxide
228. We receive solar radiation in the form of  
 A. light    B. sound      C. heat      D. heat and light
229. When fluorescent lamp is used in the place of a bulb of energy is saved  
 A. 40%    B. 20%      C. 60%      D. 70%
230. Chemical formula of hematite is  
 A.  $Fe_3O_4$     B.  $Fe_2O_3$       C.  $Fe_3O_4$       D.  $Fe_3O_2$
231. The common name of sodium silicate is  
 A. dry glass    B. waterglass    C. permutite    D. carborandum
232. CNG stands for  
 A. Compressed Number Gas      B. Compressed Natural Gas  
 C. Contracted Natural Gas      D. Compressed Neon Gas
233. The gasket of a pressure cooker is made up of  
 A. Teflon      B. Chloroprene      C. Polythene      D. Thiokol
234. A sample of hard water on boiling produces carbon dioxide. The salt present in the hard water is  
 A. Bicarbonate    B. chloride      C. sulphate      D. carbonate
235. The molecular formula of Stearic Acid is  
 A.  $C_{17}H_{35}COOH$     B.  $C_{17}H_{33}COOH$     C.  $C_{17}H_{31}COOH$     D.  $C_{17}H_{29}COOH$
236. A limbless amphibian is  
 A. frog      B. toad      C. salamander      D. Ichthyophis
237. The longest bone in the human body is  
 A. hand bone    B. thigh bone      C. ear bone      D. nose bone
238. A gland embedded in another gland is  
 A. parathyroid    B. Pituitary      C. gonad      D. adrenal
239. Which one of the following is not a quality guarantee mark for good products?  
 A. FPO      B. AGMARK      C. FPA      D. ISI
240. The gas responsible for green house effect is  
 A. Carbon monoxide    B. Ozone      C. Chlorofluoro Carbon    D. Carbon Dioxide
241. Centrifugal force is due to    A. Speed of rotational motion    B. Inertia of rotational motion  
 C. Velocity of rotational motion    D. all of the above
242. The weight of an object is slightly higher near the poles, than at the equator, due to earth's

A. Magnetic field    B. Geoid shape    C. Spherical shape    D. Atmosphere

243. If a sample of a radio active element contains N nuclei at a time, then after 3 half-lives, the

number of nuclei in the sample reduces by    A. N/8    B. N/2    C. N/3  
D. N/4

244. The nucleus formed by the fusion of two deuterium nuclei is

A. Helium    B. Neon    C. Hydrogen    D. Tritium

245. Solar cells are of    A. High efficiency, low cost    B. High efficiency, High Cost  
C. Low efficiency, low cost    D. Low efficiency, High cost

246. Goldsmith mixes a small quantity of copper to pure gold to make it

A. Attractive    B. Brittle    C. Soft    D. Hard

247. The red alga among the following is

A. Spirogyra    B. Ectocarpus    C. Sargassum    D. Polysiphonia

248. In nerve cells, axon is covered by a fatty sheath called

A. cuticle layer    B. Dendrite    C. Myelin sheath    D. Epidermis

249. The first group of terrestrial plants to develop vascular tissues is

A. Pteridophyta    B. Angiosperms    C. Bryophyta    D. Gymnosperms

250. The tissue endothelium found in the blood vessels is referred as

A. Cuboidal epithelium    B. Squamous epithelium    C. Ciliated epithelium    D. Stratified epithelium

251. The part of the brain which regulates the body temperature is

A. Mid-brain    B. Thalamus    C. Hypothalamus    D. Cerebellum

252. Heavy water is    A. Deuterium    B. Tritium    C. Deuterium Oxide    D. Hydrogen peroxide

253. The nearest galaxy to the Earth is

A. Milkyway    B. Andromeda    C. Alphacentauri    D. Saptharshi

254. Efficiency of an engine which performs work of 420 Joules by utilizing 700 Joules of heat energy is    A. 80%    B. 60%    C. 40%    D. 20%

255. The mass of an object is 10kg. Its average weight on the surface of earth in kg m/s<sup>2</sup> is

A. 10    B. 98    C. 9.8    D. 980

256. When the distance between the two objects is doubled. The force between the two objects

before and after doubling are in the ratio.

257. Number of Photo electrons ejected by a radiation in photoelectric effect is directly proportional to its

A. Intensity    B. frequency    C. Wavelength    D. Velocity

258. Which of these relations best describe the gravitational force exerted on a man of mass m,

standing on the earth of radius  $r_E$  and mass  $m_E$ .

A.  $F = \frac{Gmm_E}{r_E^2}$     B.  $F = \frac{mm_E}{r_E^2}$     C.  $g = \frac{Gmm_E}{r_E^2}$     D.  $g = \frac{Gmm_E}{r_E}$

259. The expanded form of the geostationary satellite 'APPLE', launched in 1981 is

A. Asian Passanger Payload experiment    B. Aeronautic passenger Payload experiment  
C. Ariane passenger payload experiment    D. Alien passenger payload experiment

260. Which of these rays doesn't reach the earth's surface, even if emitted by the sun  
 A. Radio waves B. Low frequency UV rays C. Infrared rays D. High frequency UV rays
261. Quantity of elements found in Sun and other stars can be measured by  
 A. number of lines B. intensity of lines C. colour of lines D. nature of lines
262. Who among the following scientists is not related to Indian Space Technology?  
 A. Madhavan Nayar B. S.Radhakrishnan C. Prof.U.R.Rao D. Dr.K.Radhakrishnan
263. In the extraction of Iron: limestone, concentrated haematite ore and coke are mixed in the  
 ratio, A. 8 : 1 : 4 B. 4 : 1 : 8 C. 1 : 8 : 4 D. 8 : 4 : 1
264. If 1 mg of mass is converted into energy, then the liberated energy is equal to  
 A.  $9 \times 10^{11} \text{J}$  B.  $9 \times 10^{10} \text{J}$  C.  $6 \times 10^{10} \text{J}$  D.  $8.5 \times 10^{10} \text{J}$
265. The correct chemical equation representing the production of glass is  
 A.  $\text{Na}_2\text{CO}_3 + \text{SiO}_2 \rightarrow \text{Na}_2\text{SiO}_3 + \text{CO}_2$  B.  $\text{Na}_2\text{CO}_3 + \text{SiO}_2 \rightarrow \text{Na}_2\text{SiO}_3 + 2\text{CO}_2$   
 C.  $\text{Na}_2\text{CO}_3 + 2\text{SiO}_2 \rightarrow \text{Na}_2\text{SiO}_3 + \text{CO}_2$  D.  $\text{Na}_2\text{CO}_3 + \text{SiO}_2 \rightarrow 2\text{Na}_2\text{SiO}_3 + \text{CO}_2$
266. The technique of alcoholic fermentation without using yeast was introduced by  
 A. Louis Pasteur B. Edward Bubner C. James Cook D. Lewen Hook
267. Natural gas is a mixture of  
 A. 80% Methane, 13% Ethane, and 7% other Hydrocarbons  
 B. 80% Ethane, 13% Methane, and 7% other Hydrocarbons  
 C. 80% Butane, 13% Ethane, and 7% other Hydrocarbons  
 D. 80% Ethane, 13% Butane, and 7% other Hydrocarbons
268. In order to manufacture ceramics, temperature has to be maintained at  
 A. 1973K B. 1973°C C. 1873K D. 1873°C
269. The energy released by fission of 1g of U-235 is  
 A.  $9.5 \times 10^{10} \text{J}$  B.  $8.5 \times 10^{10} \text{kJ}$  C.  $8.5 \times 10^{10} \text{J}$  D.  $7.5 \times 10^{10} \text{J}$
270. In the circuit symbol of n-p-n transistor, the arrow mark is upright from base to emitter, because,  
 A. electrons flow from p-base to n-emitter B. emitter-base junction is forward biased  
 C. conventional current direction is opposite to the electron flow D. all the above
271. The matrix of connective tissue does not contain  
 A. Collagen B. elastin C. Calcium Phosphate D. Plasma
272. Number of cranial nerves in birds is  
 A. 30 pairs B. 31 pairs C. 10 pairs D. 12 pairs
273. The tissue endothelium found in blood vessels is referred to as  
 A. cuboidal epithelium B. squamous epithelium  
 C. ciliated epithelium D. stratified epithelium
274. In human beings, the ratio between the weight of the spinal cord and the weight of the brain is  
 A. 8 : 1 B. 4 : 1 C. 55 : 1 D. 1 : 55
275. Dynamo is a device which converts  
 A. Mechanical energy into electrical energy B. electrical energy into mechanical energy  
 C. alternate current into direct current D. direct current into alternate current
276. The best method of getting maximum e.m.f during electro magnet induction is by:

- A increasing the number of turns of the coil      B. increasing intensity of magnetic field
- C. increasing the rate of change of magnetic field linking with the coil
- D. changing the direction of the magnetic field

277. Card board cylinder is selected in the Faraday's experiment because Card Board is

A. Soft and easily available      B. bad conductor of electricity

C. less expensive      D. good conductor of electricity

278. The principle of working of DC motor is

A. Electromagnetic induction      B. Fleming's left hand rule

C. magnetic effect of electric current      D. Fleming's right hand rule

279. The amount of deflection of the pointer of the galvanometer in Faraday's experiment depends on

A. number of turns in the coil      B. rate of change of magnetic field

C. strength of the magnet      D. direction of the motion of magnet

280. In Faraday's experiment, the current is not produced when

A. the coil is moved and the magnet is still      B. magnet is moved and the coil is stationary

C. both the coil and magnet are moved      D. both the coil and magnet are stationary

281. A student is provided with bar magnets, insulated copper wire, card board cylinder and a

galvanometer. He can demonstrate

- A. Faraday's experiment      B. Fleming's left hand rule
- C. Principle of motor      D. Principle of dynamo

282. Which of the following is not a transverse wave?

- A. Radio      B. Sound      C. Micro      D. Light

283. The electromagnetic radiation used as an efficient sterilizer is :

- A. Infra red      B. ultra violet      C. gamma rays      D. micro wave

284. If a radiation has velocity lesser than that of light, then the radiation symbolically. is:

- A.      B.      C. x      D. uv

285. The depletion in the Ozone layer is harmful because it acts as a shield against

- A. X rays      B. Infrared rays      C. ultra violet rays      D. X-rays

286. Automatic traffic signal has to be installed near the school. This can be done by applying the

principle of: A. laser      B. holography      C. radiography      D. photoelectric effect

287. The property of laser used in laser cutting and welding

- A. coherence      B. monochromaticity      C. high energy density high intensity.

D. directionality

288. A person wants to separate real gems & artificial gems from a heap. The radiation to be used, is

- A. u.v. radiation      B. Infrared radiation      C. X-radiation      D. laser light

289. Electrical conductivity of a semiconductor increases by

- A. increasing temperature      B. decreasing temperature
- C. increasing length of the material      D. decreasing length of the material

290. If a semiconductor is n-type extrinsic semiconductor, then the following impurity present in it is:

- A. silicon      B. Boron      C. Aluminum      D. Phosphorus

291. Which of the following is used to make the current flow in one direction or for rectifying action?  
 A. transistor B. diode C. transmitter D. modulator
292. A merry-go-round has a radius of 3m and completes a revolution in 3 seconds. It's acceleration is  
 A.  $4x^2$  B.  $2x^2/3$  C.  $4x^2/3$  D.  $4x/3$
293. Wet clothes are dried in washing machine due to :  
 A. rapid rotation of the motor B. centrifugal force acting on the cylinder  
 C. centripetal force of the rotating cylinders D. hot air from the fan 4 K B E
294. Centrifugal force is experienced while,  
 A. Running in a straight track B. moving in a lift  
 C. Bungee Jumping from a height D. Driving a car round the circle
295. A motor bike rider bends as he moves round a curve, this is to:  
 A. gain balance B. avoid falling C. get necessary centripetal acceleration D. gain speed
296. The formulae for centripetal force and gravitation force are  
 A.  $\frac{1}{2}mv^2$ ,  $GMm/r^2$  B.  $mv^2/r$ ,  $GMm/r^2$  C.  $Mv^2/r$ ,  $GMr^2/m$  D.  $mv^2/r$ ,  $GMm/r$
297. A rock is brought from the surface of moon, then its  
 A. mass will change B. weight will change  
 C. weight will change but not mass D. weight and mass remain same
298. An iron ball and a cricket ball having same radius are dropped from a height 'h' at the same time  
 To reach the ground D. The time taken by,  
 A. iron ball is more than the cricket ball B. cricket ball is more than the iron ball  
 C. both will be the same D. each of them will be different
299. Which of the following is related to earth's gravitational force ?  
 A. A piece of iron moving towards magnet B. An object sliding down on an inclined plane  
 C. Blades of wind mill rotating in the presence of wind  
 D. A magnetic needle deflecting near a current carrying conductor.
300. A geostationary satellite has same:  
 A. mass as that of the earth B. radius as that of the earth  
 C. period of revolution as that of earth D. period of rotation as that of earth

# QUESTIONS' BANK

FOR MESSAGES ONLY

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