

X STANDARD

**QUESTIONS'
BANK**

FOR MESSAGES ONLY

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SCIENCE MULTIPLE CHOICE QUESTIONS

Part-4

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1 MARK QUESTIONS

1. How many times the first magnitude star is brighter than the third magnitude star?
2. Compact fluorescent tubes are more suitable than the Incandescent electric bulbs to save electric energy. Why?
3. What is the reason for the enormous energy of sun.
4. Calcium bicarbonate is dissolved in water. Write the equation that takes place when it is boiled?
5. What is centripetal force?
6. In the power stroke of a petrol engine the piston is pushed with great force. Why?
7. Mention the genetic material and enzyme present in HIV.
8. Mention two Agricultural wastes which flows into the Natural water bodies.
9. Write any one function of Macrophages present in lymph tissue.
10. Why should FPO conduct quality tests of food products periodically?
11. Define centripetal force.
12. Why does a runner while running in a sharp curved path lean inward?
13. What is magnitude scale of a star ?
14. In Karnataka state generally load-shedding is done during summer. Why ?
15. What is conservation of water ?
16. What is the reason for enormous energy output of the sun ?
17. What is Inflorescence ?
18. Even though there is production of hydrochloric acid in the inner wall of stomach, it will not be damaged. Why ?
19. Now it is preferred to use organic manures in place of chemical fertilizers in agricultural field. Give reason.
20. A boy with HIV positive was denied admission in a school. The court did not approve this. What scientific justification do you make on this ?
21. Name the two products obtained along with water when hard water containing calcium bicarbonate is boiled.
22. Mention any two methods by which the induced e.m.f. can be increased in a dynamo.
23. A person wrongly purchases a centrifugal governor to transfer a liquid from a low pressure region. Name the device that the person should have purchased instead of centrifugal governor.
24. Why is a bent copper pipe used in a solar water heater ?
25. How is the use of good roads profitable to owners of the motor cycles ?

26. Why are normal butane and isobutane called isomers ?
27. Why is the skin of frog always moist ?
28. What is the disorder caused due to less secretion of parathormone in human body ?
29. Assume that you are attacked by two robbers as you walk alone. At that moment you start running at a great speed. Which hormone produced in the body is responsible for getting that speed ?
30. Mention any one of the special characteristic features of tissue culture laboratory.
31. Why does a runner lean towards the centre of the curves while running in a curved path ?
32. When a mixture of fine sand, sawdust and water are rotated in a centrifuge, sand moves away towards the edges. Why ?
33. Write any two uses of solar cell.
34. What is biotechnology ?

1 MARK QUESTIONS

35. We need to avoid eating coloured ice candy sold on road sides. Why ?
36. A baby born deaf may also be dumb. Why ?
37. A diabetic patient who is losing weight drastically may feel more tired than a non-diabetic person. Why ?
38. What is a heat engine?
39. A composite light containing yellow, blue and orange colours is passed through a prism. Which colour bends the most ?
40. What is the minimum frequency of sound wave needed to prepare emulsion from two immiscible liquids ?
41. By how many times a 3rd magnitude star is brighter than 5th magnitude star ?
42. Calcium bicarbonate causes hardness in water but not calcium carbonate. Why ?
43. What is Saponification ?
44. A boy observes the cross-section of an angiosperm stem under a compound microscope. He infers that the leaves of that plant have parallel venation. What observation led him to arrive at this inference ?
45. Write any one function of cerebellum.
46. It is found that desired genes can be transferred from one plant to another plant. Write any one advantage of this process to the plant.
47. A fish which has escaped from a fisherman's net has lost one of its pectoral fins. What difficulty will it face while swimming ?
48. A cyclist going round a curve leans towards the centre of the curve. Give reason.
49. What is a centrifugal Governor?
50. What is the colour of the star Betelgeuse?
51. Mention the purpose of using a plane glass sheet in a solar cooker?
52. How does the pressure cooker help in saving energy?

53. Write the balanced chemical equation of the reaction between sodium carbonate and calcium chloride.
54. What is biotechnology?
55. Which important characteristic feature of selaginella depicts that it is highly evolved than Riccia?
56. Ramya experiences numbness in her limbs due to accumulation of watery fluids, name the disease and adulterant that has caused it.
57. Why is goiter called an endemic disease?
58. What is centripetal force?
59. How do the roads constructed at the bends on a level road?
60. Solar cooker is covered with a transparent plate of glass -Give reason.
61. State Hubble's law.
62. Write the remedial measure that can be taken by a cattle rearing person in order to minimize the energy crisis.
63. Name any four salts that cause hardness of water.
64. Man is a Chordate, why ?
65. Why should be the air pressure in middle and outer ear equal in man?
66. Name any two diseases caused due to the consumption of adulterated food.
67. Define biotechnology
68. What is centrifuge?
69. Why does a cyclist lean towards the centre of the curve while moving in a curved path?
70. Which are the two regions of solar atmosphere?
71. How many silicon solar cells of 2 sq.cm. area are to be connected in a solar panel to produce 20v?
72. A person starts to use bicycle instead of a motor cycle.If others also follow this method then pressure on which source of energy can be minimized ?
73. What are the possible harms occurring with the continuous use of hard water in boilers?
74. Name any two plants which are having thallus.
75. "Photochemical smog and acid rain are curse to man kind" why?
76. Write any one of the application of DNA finger print technology.
77. Which substance is mixed as a adultrant in ghee?
78. In centrifuge how are particles of different densities separated ?
79. What is centripetal force ?
80. Name our Galaxy.
81. What happens when the glass cover on the solar water heater panel is removed ?
82. Karnataka Government has undertaken a programme of distributing fluorescent tubes. How is it a remedy for energy crisis ?
83. How do you test that water supplied to your home is temporarily hard water ?
84. What is recombinant DNA technology ?
85. Write two salient features of chordates.
86. Write the function of the gland which is embedded in the gland shown below ?

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87. A boy who resides near a power loom has developed a habit of speaking loudly everywhere. Give a scientific reason.
88. What is centrifuge?
89. Give an example for centripetal force.
90. What are binary stars?
91. Name the process by which the sun emits energy
92. How are CFL 's better than other bulbs that we use in our house ?
93. Name the ions which causes hardness in water.
94. What is endothelium?
95. Meristematic tissue in plants is called meristem. Why?
96. What is reflex action?
97. Which is called the chemical factory of the body?
98. What is the efficiency of heat engine?
99. What is a neutron star?
100. Silicon is a semiconductor. Give reason.
101. Black colour is used to paint copper pipes. Why?
102. How is permittin obtained?
103. A man identifies the leakage of L.P.G. by the smell of a chemical .Name it.
104. How is aerenchyma tissue helpful to our plant?
105. Adulterated foods of metallic yellow colour have to be rejected .Why?
106. Mention the differences between gaseous and sedimentary cycle.
107. Write any 2 applications of tissue culture.
108. Bryophytes are grown in the garden in rainy season. How can you make sure that they are Bryophytes?
109. Write any two functions of Epidermal tissue.
110. Xylem is called water conducting tissue and phloem is called food conducting tissue.Why?
111. How does nose detect the smell?
112. How is Hepatitis is caused in a person?
113. Ramamani buys adulterated butter from market. Explain the test conducted to confirm it.
114. Give an example for centripetal force.
115. Mention the use of Centrifuge.
116. What is photosphere?
117. Copper pipes are bent in solar water heater. Why?
118. Give any two reasons for energy crisis.
119. Name the ions causing permanent hardness in the water.
120. What is Metamorphosis?
121. Mention the functions of adipose tissue.
122. What are voluntary and involuntary Muscles ?
123. Name the chemical which causes acid rain
124. What is a photocell?
125. What is E.C.G.?
126. Solar cooker is painted with black colour. Why?
127. Write the general formula for carboxylic hydrocarbons.
128. When hard water is boiled in the laboratory, a gas is liberated. If it is passed through

lime water, it turns milky. Name the salt present in hard water.

129. What is hard water?

130. Give any two examples for egg laying mammals.

131. What is lymph?

132. Which is the center for reflex arc?

133. What is clone?

134. Why is diode used as a rectifier?

135. What is centrifuge?

136. State the Doppler Effect.

137. What is the role of coolant in nuclear reactor?

138. How does the use of biodegradable waste like cow dung decrease the energy crisis?

139. Write the example equation of manufacture of soaps

140. Pteridophytes are called tracheophytes. Why?

141. Goitre is called endemic disease. Why?

142. We should buy processed food with AGMARK label. Why?

143. Define biotechnology

144. What is centrifugal reaction?

145. When a shallow dish, containing some mercury and water is rotated about a vertical axis, then why does water stay at the centre and the mercury at the edge?

126. What is luminosity of a star?

127. Which radiations do you use to separate real and artificial genes from the heap?

128. What is the time taken to reduce radium from 1 mg to 0.125 mg?

129. In solar water heaters copper pipes are bent into coils. Give reason.

130. Ramesh observes a plant and decides that it belongs to dicot. How?

131. Adiantum is more evolved than Riccia. Justify the statement.

132. How does cuticle help for the aquatic plants?

133. What is meant by green house effect?

Fill in the blanks with suitable terms

1. A p-n junction allows current to pass in one direction. This is called _____

2. Radar gun works on the principle of - _____

3. The device which converts light energy into electrical energy is _____

4. When a metal is heated its resistance _____

5. The effect that helps us to know about rings of Saturn is _____

6. The chain reaction in which four hydrogen nuclei fuse into one helium nucleus with the liberation of energy is _____

7. The type of semiconductor obtained when silicon is doped with phosphorous is _____

8. Ultrasonic waves are emitted from the SONAR. These waves are reflected by the ocean bottom and reach the detector in 3sec, The depth of the ocean is _____

9. The part which helps to store large amount of heat energy inside the solar cooker is _____

10. The gravitational force between earth and an object of mass 10 kg on its surface in newtons is

11. 'I' is the intensity of scattered light of wavelength λ . The mathematical form of the statement "Intensity of scattered light is inversely proportional to fourth power of its wavelength" is

12. Name of the simplest hydrocarbon is
13. Valency of dopant of base region of *n-p-n* transistor is
14. The principle used in tracking of artificial satellite is
15. The process of slow cooling of glass is called
16. The spectrum obtained from candle flame is called
17. Speed of the star is estimated by using the effect stated by the scientist
18. The arrangement of solar cells in series is called a
19. The device that converts solar energy directly into electrical energy is called
20. In radio transmitter audible sound will be converted into corresponding electrical signals by the device
21. In a person, kidney stones are formed. The sound waves to remove these stones are called
22. The valency of the dopant used in the base region of p-n-p transistor is _____.
23. The velocity of ultrasonic sound waves in water is 1.5 km/s. The distance travelled by those waves in 2 seconds is _____ km.
24. The device which converts solar energy into electrical energy is _____.
25. The more doped region in the transistor is
26. The velocity of ultrasound in water is 1.5 km/s. The distance travelled by it in water in 3 seconds is
27. The device used to provide electricity in the instruments of artificial satellites is
28. To offer low resistance, diode should be biased in -----
29. If ultrasounds are used to check human heart, then it is called ----
30. In solar water heater copper pipes are bent as coils so as to form
31. The range of audible sound is -----
32. The device used to blow air and petrol is
33. Non metal used in solar cells is
34. The device used to convert alternate current(AC) into direct current(DC) is -----
35. The device used to remove the grease and dirt from the clothes is -----
36. The gas obtained by cow dung is
37. The minimum velocity to be given to an object to escape from the earth's gravitational force is ----
38. The ultrasonic waves sent by a SONAR in water return in 3 sec. If the velocity of sound in water is 1.5 km/s, then the distance travelled by the ultrasonic waves is.....
39. Chemical name of water glass is
40. The technique is to be used by Annirudha to detect the fault in the engine parts of his car is -----
41. The first sounding rocket designed completely in India is -----
42. During beta decay of $^{14}\text{C}_6$ the mass of newly formed nucleus is
43. Solar cooker box is painted with black colour because
44. An ultrasonic impulse sent from the surface of ocean to its bottom reaches the bottom and returns after 6 seconds. The depth of the ocean is ----- km.
45. The type of glass used in the preparation of spectacle lens is

46. Temporary hardness is removed by the addition ofchemical

SCIENCE : 2 MARKS QUESTIONS

1. Draw a neat diagram of a D.C. dynamo.
2. Name the electromagnetic waves that lie in between Radiowaves and Infrared rays in electromagnetic spectrum. Mention any three applications of these waves.
3. The period of revolution of a satellite around the earth is 24 hours. What is that satellite called ? Mention the main objective of launching such satellites. Write the equation showing the relationship between orbital velocity and escape velocity.
4. Draw a neat diagram of a "single stage rocket".
5. What are sun-spots ? How are they caused ? Why do they appear dark ?
6. What is Transmutation ? Identify the parent nucleus and daughter nucleus in the following transmutation : $^{88}\text{Ra}_{226} \rightarrow ^{86}\text{Rn}_{222}$
7. Mention any *four* hazards to human health that may be caused due to radioactive radiations.
8. Mention any *two* differences between "Alkanes" and "Alkynes".
9. How does boiling remove the temporary hardness of water ? Explain it, with Balanced chemical equations.
10. a) What are Heat Engines ? How are they classified broadly ?
b) Explain the Power stroke of a petrol engine.
c) Write the formula for the efficiency of a heat engine.
11. Which characteristic of vertebrates made them get ready to live on land ? Give one example.
12. Draw a sketch to show the structure of pistil in a typical flower and label the parts.
13. Why are xylem tubes considered as complex permanent tissue ?
14. As per government regulations it is compulsory to wear a helmet which covers up to the neck region. Give scientific reason.
15. A farmer mixes Anabena and Nostoc along with the manure in his paddy field. What will be the effect on yield and why ?
16. Draw a neat sketch of the graphs showing the direction of the induced current in both A.C. and D.C. dynamos.
17. Draw a neat sketch of a single stage rocket.
18. What are geo-stationary satellites ? Write any one use of geo-stationary satellites. At what height should they be located ?
19. What is a galaxy ? Mention the types of galaxies.
20. Write the structural formulae of Isobutane and Cyclohexane.
21. During beta decay of a radioactive element, what changes take place in the nucleus of an atom ? Represent the changes taking place in the transmutation of radio carbon by beta emission.
22. Give one reason for each of the following :
a) Fissionable material should have certain critical size.
b) People working in nuclear power station wear lead jackets.
23. Softening of hard water by boiling is easiest, yet we need to consider other methods of softening. Why ?
24. Write any two differences between laser light and ordinary light.
25. Draw a neat diagram of a blast furnace.

26. In a petrol engine write a function for each of the following :
- Crankshaft
 - Carburettor
 - Spark plug
 - Inlet valve
27. Draw a neat diagram of root system in monocot plant.
28. Name the protein that gives red colour to the blood. What is its function ?
29. After relay race, Runner-A, pours glucose powder into his mouth. Runner-B tastes the glucose slowly with tip of his tongue. Whom do you think, experiences the sweetness most ? Why ?
30. Nowadays birds are decreasing in thickly populated area. Give two reasons.
31. Mention two pollutants, which pollute public water sources in rural areas.
32. State Faraday's laws of electromagnetic induction.
33. Draw the graph of induced current in each of A.C. and D.C. Dynamo.
34. Draw a neat diagram of gas laser tube.
35. Mention any four limitations of external combustion engine.
36. It is found that pig iron obtained from blast furnace contains more quantity of silica and carbon. What are the reasons for the presence of these impurities. How can this mistake be corrected in future?
37. What is the role of magnesium and hydrochloric acid used in the extraction of silicon.
38. What is annealing of glass? Why it is done?
39. Draw a neat diagram of the column used in the softening of hard water by permutit process.
40. Write the circuit symbol of n-p-n and p-n-p transistors.
41. What is the significant characteristic acquired by Pteridophytes in the process of Evolution? Give two examples for Pteridophytes.
42. a) How is the Stomach wall protected against the acidic contents secreted in it?
b) Why should heart have involuntary muscle?
43. a) Due to what reason blood from retina would seep into Vitreous humour?
b) What is the treatment for this condition?
44. Mention any two precautionary measures taken to prevent infection of HIV.
45. Mention the four aspects that a person must check while purchasing a sealed Drinking water bottle.
46. Which aspect of biotechnology do you suggest to a farmer who is at loss in cultivating rose plants? And why?
47. Draw a neat diagram of a DC motor.
48. Electricity is produced when a bar magnet is thrust into the conducting coil. What steps do you take to increase the electric current in the coil ?
49. Draw a neat circuit symbol of *n-p-n* transistor and diode.
50. Draw a neat diagram of internal combustion engine which is in the stage of power stroke.
51. What is the alloy you prepare if you are given copper and tin ? Give one use of the alloy.
52. When nitric acid is added to detect the presence of copper present in ornamental gold, what is the compound of copper formed ? Why does not gold change ?
53. What is cement ? Name the substance which prevents too rapid setting of cement.
54. Write four reasons about acute shortage of drinking water.
55. What is the element produced when silicon dioxide reacts with magnesium ? Write The equation of the chemical reaction.

56. Draw a neat diagram of the permutit tower used to soften hard water indicating the positions where hard water is sent in and soft water is drawn out.
57. Mention two properties and two uses of Laser.
58. Draw a neat diagram indicating the dispersion of composite light and recombination of colours.
59. Write one difference between solar flares and solar prominences.
60. Draw a neat schematic diagram of the structure of the sun to indicate clearly the solar core and solar zones.
61. a) Why does the size of copper cathode increase during the purification of copper By electrolysis ?
b) Why does a goldsmith mix a small amount of copper to gold to make ornaments
62. Explain the extraction of amorphous silicon.
63. What are thermoplastics ? Mention one use of each of the following :
a) Polythene b) Nylon-6.
64. Mention two characteristics of aromatic hydrocarbons. Write the structures of the following : Ethyne b) Benzene.
47. Mention any two salient features of reptiles. Mention any one major difference between reptiles and mammals.
65. A person is subjected to blood test. It is found that the glucose level in the blood has increased and is also urinating frequently.
a) From what disease is the person suffering ?
b) What hormone should be administered to control this disease ?
66. Name the four types of cells present in xylem tissue.
67. How does Hepatitis-B transmit from one to another ?
68. Generally yellow coloured cold drinks sold by shanties and fairs should not be consumed.
a) Which disease will we be affected by this ?
b) Name the adulterant present in this cold drinks.
69. "In the previous year a farmer had grown groundnut in his field. This year he has thought of growing ragi crop in the same field and has decided to use lesser quantity of fertilizers."
a) What is the reason for the above decision taken ?
b) What crop can he cultivate in the same field next year ?
70. Write common parts present in motor and dynamo.
71. Draw a neat diagram of DC motor.
72. Write any two experimental facts regarding photoelectric effect.
73. Draw a block diagram of radio receiver.
74. Draw a neat diagram of external combustion engine.
75. What is the product formed when heated aluminium powder is sprinkled in a gas jar containing chlorine ? Write balanced chemical equation of the reaction.
76. a) How is the substance used in grinding tools prepared from silicon and coke ?
77. What is hard water ? Name two salts which cause temporary hardness in water.
78. Mention any two functions of the secretion of lacrimal glands.
79. List out the common adulterants that may be present in the following :
a) Honey b) Turmeric powder c) Coffee powder d) Pepper.
80. Thyroid gland of a 40 year old person is underactive. List out any four symptoms of

the disorder that the person might be suffering from.

81. What are the main differences between the two types of biogeochemical cycles ?

82. What was the need for vertebrates to evolve from oviparity to viviparity ?

83. A doctor advises a person to shift his residence from the midst of the city to city outskirts, where lots of lichen growth is found. What may be the reason behind this advice ?

84. Draw a neat diagram of AC dynamo and label the parts.

85. A robot sent to the moon sends a laser light towards the earth. If it takes 1.3 seconds to reach the earth then calculate the distance between moon and the earth in kilometres. (Given : Velocity of light is 3×10^8 m/s)

86. Write two differences between intrinsic semiconductor and extrinsic semiconductor.

87. Write two differences between centripetal force and centrifugal force.

88. Two masses m_1 and m_2 are separated by a distance d . Find by how many times the force of gravity increases if mass of each of the objects is doubled without change in the distance between them.

89. Which reaction is responsible for solar energy ? Name the major component of solar energy that reaches us.

90. Draw a neat diagram of electrolytic cell used in the purification of copper and label the following : a) Anode b) Cathode.

91. Explain the method of extraction of amorphous silicon using silica.

92. Draw a neat diagram showing the process of softening hard water and label the following : a) Zeolite layer b) Soft water layer.

93. Differentiate between the two types of root systems found in leguminous plants.

94. What are Dendrites and Axons ? Write any one difference between them.

95. The rate of heart-beat and breathing has increased in a person, while running in a race. After sometimes the heart-beat and breathing becomes normal. Which two components of the nervous system control these processes and how ?

96. A person living in a coastal area is suffering from nervous problems and protruded eyes. What may be the cause for this condition ? How can it be controlled ?

97. Which are the four methods of HIV transmission ?

98. As a consumer what are your roles and responsibilities in preventing food adulteration ?

99. Write any two factors on which the induced EMF depends.

100. Draw a neat sketch of a D.C. Dynamo

101. What is electromagnetic spectrum?

- a) Name the electromagnetic radiations which has
1. the lowest frequency and
 2. lowest wavelength

102. Draw a neat sketch to show the exhaust stroke of an external combustion engine.

103. Give scientific reasons for the following

- a) Iron articles are electroplated with chromium
- b) Calcium silicate is a protective layer for the molten iron in the blast furnace
- c) Copper is not used to prepare Hydrogen in the laboratory
- d) Ore of copper is not concentrated by hydraulic washing.

104. What is the role of magnesium and dilute hydrochloric acid in the preparation of silicon.

105. Write the steps involved in recycling of plastics.

106. Name the two types of Hardness in water. On what principle can the hardness of

water be removed?

107. Draw a circuit symbol of each of the following
a) forward biased diode b) Transistor of npn
108. How are ear and throat connected? What is its advantage?
109. Raju resides in an area where not much of lichens are found. List any four health hazards he may be suffering from.
110. Explain the structure of HIV in 2 or 3 sentences.
111. Mention one function of the following: a) Sclerides b) Companion cells
112. How can vanaspathi in ghee be detected?
113. A student has uprooted a weed plant in the school garden. The student infers that It is a dicot plant. Support the inference.
114. Write any two differences between AC Dynamo and DC Dynamo
115. Name the following process
- (1) In an atom, an electron from an orbit E1 raises to an orbit E2
 - (2) In an atom, an electron from an orbit E2 jumps to an orbit E1
 - (3) Atoms are raised from lower energy level to higher energy level
 - (4) Supplying energy from external source, to raise the atoms to high energy level
116. Draw the block diagram of a simple radio receiver.
117. Draw a sketch of external combustion engine showing exhaust stroke.
118. Choose the components used to prepare german silver and bronze from the following : Copper, Zinc, Tin, Nickel.
119. How silicon carbide is obtained from silicon? Explain with the equation
120. What is polymerization? Name the monomers of the following. (1) Teflon (2) Nylon.
121. Angiosperms are considered as the most evolved plants in the plant kingdom, why?
122. Name components of xylem & phloem which have lignified wall.
123. How does the intelligence of man increase as thickness & convolutions of cerebral cortex increase?
124. Why pneumonia is not cured in an individual suffering from AIDS ?
125. What is food Adulteration? Write any two precautions taken by the government to control food adulteration.
126. What are the different stages of recycling which are responsible to consider carbon cycle as perfect cycle?
127. A magnet and a coil are moving in the same direction and with same speed e.m.f is not induced in the coil ? Give reason.
128. What are the factors influencing induced e.m.f?
129. Draw a neat labeled diagram of DC Motor.
130. Write any two uses of Ultraviolet ray in the field of medicine.
131. Give the circuit symbols of two types of transistor.
132. Draw a sketch of intake stroke of a petrol engine
133. Give reason for each of the following (1) Nichrome is used to make heating
(2) Copper is mixed with gold while making ornaments

134. How is crystalline silicon obtained? Explain with the equation
135. What is annealing? What is its use?
136. Write one function of hormone Thyroxin and Adrenaline
137. Write any two differences between yellow spot and blind spot of human eye.
138. Name the different types of pollutions that effect human health.
139. List out any two main differences between HIV and HBV
140. Classify the following into Simple permanent tissues and Complex permanent tissues. (a)Parenchyma (b)Xylem (c)Phloem (d)Collenchyma
141. Classify the following vertebrates into three chambered and four chambered heart bearing animals (a) Frog (b) Pigeon (c) Cobra (d) Man
142. Differentiate between the two types of root systems found in angiosperms.
143. What are Dendrites and Axons ? Write any one difference between them.
144. The rate of heart-beat and breathing has increased in a person, while running in a race. After sometimes the heart-beat and breathing becomes normal. Which two components of the nervous system control these processes and how ?
145. A person living in a coastal area is suffering from nervous problems and protruded eyes. What may be the cause for this condition ? How can it be controlled ?
146. Which are the four methods of HIV transmission ?
147. As a consumer what are your roles and responsibilities in preventing food adulteration
148. What should be the angle between thumb (main) finger, ring finger and central finger in Fleming's left hand rule ? What does each finger indicate ?
149. Draw a neat diagram of A.C dynamo and represent the current in the external circuit by a graph.
150. State the difference between laser light and ordinary light.
151. Draw a block diagram of a simple radio receiver.
152. Draw a sketch of petrol engine and label the parts.
153. A student dips a zinc plate in copper sulphate solution. Write the equation of the chemical reaction taking place. Which metal is displaced during this reaction ?
154. Explain the process of obtaining crystalline silicon with chemical equation.
155. Explain the steps involved in the manufacture of cement.
156. Write the equation of chemical reaction taking place when hard water containing calcium chloride is passed through permutit.
157. How do you test for vanaspati in ghee ?
158. Give reasons :
- It has been difficult to find medicines for HIV infection.
 - Sclera and skin of the person suffering from jaundice turn yellow.
159. Why do drunken drivers tend to commit more accidents than others who do not drink and drive ? Mention the part of the brain which may not function properly during this time.
160. Trace the route of sound waves from outer ear to inner ear.
161. State two functions of areolar tissue.
162. Point out any two characters that support the idea that platypus is more evolved than tortoise.
163. Explain briefly the Faraday's experiment
164. Draw a neat diagram of A.C dynamo
165. What is spontaneous emission?

166. Draw the block diagram of radio transmitter.
167. Write the balanced chemical equation, if copper reacts with concentrated nitric acid
168. Write any two physical properties of crystalline silicon.
169. Draw a neat diagram of petrol engine showing intake stroke and label the parts.
170. What is annealing of glass ?
171. Write the methods of conservation of water.
172. List the differences between monocot and dicot plants
173. A frog is kept in the vessel having temperature of 30⁰ C for some hours. Which organ of frog is unable to respire?
174. A person suffers from various infections and finally dies. Which disease is he suffering from? What precautions should be taken to prevent it?
175. Name the adulterant used in following foods a. Milk b. Edible oil c. Pepper d. Rice
176. Rama lived in a place where there are no lichens. Name any four health problems of him.
178. Draw a neat diagram of DC dynamo.
179. Write the laws of Faraday's electromagnetic induction.
180. Write any two experimental factors related to photo electric effect.
181. Draw the diagrams of forward bias and reverse bias.
182. Draw a neat diagram of petrol engine and label its parts.
183. What is meant by thermosetting plastic? How is it different from ordinary plastic?
184. What is hard water? Mention any two problems of it.
185. Balance the following chemical equations
 $Zn + HNO_3 \rightarrow Zn(NO_3)_2 + H_2$
 $Fe + HCl \rightarrow FeCl_2 + H_2$
186. On what factors does the induced e.m.f. in a coil depend?
187. Draw a neat diagram of DC dynamo.
188. Draw a neat diagram of Helium – Neon gas laser.
189. Mention the differences between n-p-n and p-n-p transistors.
190. Draw a neat diagram of petrol engine.
191. Explain the concentration of copper ore.
192. Mention the difference between addition and condensation polymers.
193. What is meant by hard water? Water becomes hard. Why?
194. Write any four uses of silicon compound.
195. Mention the difference between Angiosperms and Gymnosperms.
196. Write the diagrams of parenchyma and collenchymas.
197. What are the functions of Rods and Cones?
198. What precautions should be taken to prevent H.I.V?
199. The people who had consumed food in a party are suffering from amoebiasis and vomiting. Give Reasons.
200. The rose plant in Ramesh's garden , which yielded once in a year, now yields twice. What technology is adopted by him in cultivation? What are the conditions necessary for it?
201. Mention any four applications of Ultra Violet radiations.
202. Write the circuit symbol of n-p-n transistor.
203. A cyclist gains stability while moving in a curve by leaning towards its centre. Give reason.
204. Which are the factors that have no influence on the gravitational force?
205. What is refractive index? Write its symbol.

206. Name the following : a. Dark spots found on the photosphere.
b. The outermost layer of solar atmosphere.
207. What is induced radioactivity? Give an example.
208. List out any 4 uses of silicon compounds.
209. Avoid using hard water in boilers. Give reasons.
210. What are rhizoids? Mention its functions.
211. Even though lotus is found in water it does not decay. Give reason.
212. Write the symptoms of hepatitis B.
213. What is meant by food adulteration? Name the adulterants found in the following
a) turmeric powder b) pepper.
214. Mention the effects of air pollution on human health.
215. A farmer uses nostoc for his paddy field. Give reason.
216. State the Dynamo Rule.
217. Why is laser light coherent?
218. Draw the diagram of reverse bias of p-n junction.
219. Draw a neat diagram of single stage rocket and label its parts.
220. Draw a neat diagram showing Faraday's experiment.
221. What are radio-isotopes? Give two examples
222. State the uses of invar steel and nichrome.
223. Mention the role of magnesium powder in the extraction of silicon by quartz
224. What is permutite? Name the chemical used to regenerate it.
225. Assume that a farmer grows maize and dhals crops in his field together at a time.
During drought which crop dries first?
226. Name 4 types of cells of water conducting tissue.
227. Which action of our body is not under the control of our brain? Give an example
228. What are the ways through which HIV is not transmitted?
229. A farmer gets good yielding in paddy field by adding Rhizobium. Give reason.
230. How do you detect the presence of argemone oil in edible oil?
231. What is radiography? Name the two radiations used in it.
232. What is meant by transmutation?
233. Mention four uses of porcelain.
234. What are the differences between black dwarf and black hole?
235. How is silicon obtained from 'quartz'? Write the chemical reaction.
236. Draw a neat diagram of expansion stroke of an external combustion engine
237. Name any two ores of copper. Write their molecular formula
238. Draw a neat diagram of spectroscope.
239. Draw a neat diagram of the structure of sun and locate the sun spots.
240. Mention any two characteristic features of gymnosperms
241. Mention the difference between sporophytes and gametophytes
242. What is the role of consumer in preventing food adulteration?
243. Ramu is suffering from numbness of tongue, lips and limbs. Name the disease that he is suffering from.
244. Name the two types of biogeochemical cycles? Give an example for each.
245. Define the term biotechnology and DNA recombinant technology

SCIENCE : 3 MARK QUESTIONS

1. State Kepler's laws of planetary motion.
2. What is a spectroscope? Mention the functions of the following parts in the spectroscope.
a) Collimator b) Telescope.
3. Eventhough there are no electrons in the nucleus of an atom, during beta decay electrons are ejected from the nucleus. How? ${}^Z X_A \rightarrow Y$. This is an example for Alpha decay. What will be the atomic number and atomic mass of Y.
 ${}^Z X_A \rightarrow Y$. This is an example for Beta decay. What will be atomic number and atomic mass of Y.
4. Draw a neat diagram of nuclear power reactor.
5. State Kepler's first law and third law of planetary motion. What is the use of the third law ?
6. What will be the effect when monochromatic light is passed through benzene like organic liquids ? Who discovered this effect ? Give one use of this effect.
7. What is alpha emission from a radioactive element ? Write an example of transmutation of alpha emission.
8. Draw a neat diagram of nuclear reactor.
9. a) Explain the function of the following in a radio transmitter : i) Mixer ii) Oscillator.
b) What is meant by forward biasing of a diode ? How does it affect the resistance ?
10. State Kepler's laws of planetary motion.
11. Why does the mass number of the element remain the same during Beta decay ? The half-life of a radioactive element is 1600 years. What mass of 200 gms of that element is decayed in 4800 years ?
12. Draw a neat diagram of a D.C. motor.
13. a) What is orbital velocity ?
b) Write the equation for the orbital velocity of satellite which is placed at a height of h metre from the earth. Write the meanings of symbols used.
c) What is the relationship between orbital velocity and escape velocity ?
14. In the life cycle of stars explain the following stages : i) Proto star ii) Steady star.
15. Draw a neat diagram of blast furnace used in the extraction of iron and label any three parts.
16. Name the two types of star clusters. Write any two differences between them. Mention one use of study of star clusters.
17. Draw a neat diagram of nuclear reactor and label the following parts :
a) Control rods b) Concrete shield.
18. a) Explain an experiment with chemical equation to establish that iron is more reactive than silver.
b) Write the chemical equation representing the reaction of zinc with the following :
i) Dilute hydrochloric acid ii) Dilute sulphuric acid.
30. State the universal law of gravitation. Prepare it by a mathematical equation.
31. What is impure spectrum? Why is Raman scattering called incoherent and Rayleigh scattering called coherent scattering? On what basis did Raman give satisfactory explanation of incoherent scattering?
32. A radio active element has a half life period of 8 days. If measured how the mass of that element is 3.125g. What was its initial mass 40 days before.

33. Draw a neat diagram of the device that converts nuclear energy into electrical energy.
34. State the law of conservation of momentum
 “The escape velocity on the earth is 11.2km/s” What does it mean? How are orbital and escape velocities related to one another?
 At what height Geostationary satellite is launched.
30. State Kepler's three laws of planetary motion..
31. Imagine that you are a doctor by using which isotope you will treat.
 (1) A person is suffering from Cancer
 (2) Growth of a person is retarded due to bulging of Thyroid gland
32. a) How can we obtain a line emission spectrum?
 b) Write the differences between Rayleigh scattering and Raman effect
33. Draw a neat labelled diagram of nuclear reactor and label the parts.
- 31) a) State the universal law of gravitation.
 b) Mention four points successfully explained by it.
- 32 a) How can overlapping of colours in spectroscopy be minimized?
 b) What is the reason for dispersion?
 c) Mention the type of spectrum obtained by candle flame and light emitted from gases or vapour.
33. Write the name of the isotopes used in the following cases
 a) To find the age of fossil of Dinosaur
 b) To study the action of medicines
 c) To determine the kind of phosphate required for Ragi crop.
34. Sketch the diagram of nuclear fission reaction and label neutron and fission fragments
 a) Calculate the number of neutrons liberated in the third stage of nuclear fission reaction liberating two neutrons when a nucleus gets fissioned
35. Explain the function of the constituents of plasma.
36. Draw a diagram to show the structure of a typical flower and label any two parts.
37. Write Kepler's three laws of planetary motion.
38. a) The age of which of the following materials can be found by using radio-carbon ?
 Quartz, Wood, Copper.
 b) Half-life period of radio phosphorus is 3 minutes. After its preparation it decays and in 12 minutes 2 grams of mass is remained. What was its initial mass when it was prepared ?
39. What is spectroscopy ? Write functions of collimator and telescope of a spectroscopy.
40. Draw a neat diagram of nuclear power plant and label the following parts :
 i) Moderator ii) Heat exchanger.
41. a) Mention one difference between nitrification and denitrification.
 b) The effluents released into the river by chemical industry is more than the norms.
 What may be the effect on fauna in this river ?
 c) What role do saprophytes play in ecological balance ?
42. Draw the Diagram of neuron and label any two parts.
43. State the universal law of gravitation. Write the mathematical expression of this law.
44. Describe the experiment conducted by C. V. Raman to demonstrate Raman effect.

What is the use of this effect ?

45. A radio nucleus $Z X A$ emits an alpha particle and becomes Y . Mention the atomic number and

mass number of Y . What do you call the conversion of one element into another element ?

46. Draw a neat diagram of nuclear power reactor and label the parts.

47. Draw a neat diagram of H I V and label R N A and fatty layers

48. Explain the function of ears

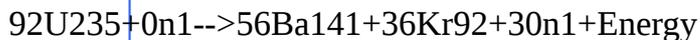
49. a) State universal law of gravitation. Write the formula of gravitational force.

b) Write an equation to state the relation between the object at a height 'h' above the ground and 'g'.

50. Write an application of each of the following:

a) Diode b) Transistor c) Microphone in radio transmission.

51. How are three neutrons obtained from this equation. Explain .Mention the types of reaction.



52. Write a neat diagram of preparation of soap. Label any 2 parts of it.

53. Draw a neat diagram of mustard plant and label its parts .

54. Explain the steps of sewage treatment.

55. Give scientific reasons for the following:

a. Astronaut orbiting in a space craft experiences weightlessness.

b. The value of acceleration due to gravity (g) varies on the earth.

c. Gravitational law is called universal gravitation law.

56. Define the following:

a) Visible spectrum b) Pure spectrum c) Impure spectrum

57. Draw a neat diagram of manufacture of cement. Label any two parts.

58. Write the functions of the following in the nuclear reactor

a) Graphite b) Boron c) Plutonium

59. a) Draw a diagram of neuron and label its parts. b) What is synapse?

60. a) Where is pituitary gland located? b) List the functions of pituitary gland.

61. Explain the principle of rocket launching.

62. Explain the working of Steam Engine with a neat diagram.

63. a) Write a neat diagram of blast furnace label its parts. b) Name any two alloys of iron.

64. A man had clear vision of near objects but could not see far object.

What defect has he in his vision? Give reason. How can it be corrected?

65. Define bio degradable and non bio degradable pollutants. Give an example for each.

66. State the three laws of Kepler.

67. Define the following: a) Line emission spectrum b) Fraunhofer lines

68. Write the uses of radioisotopes.

69. Write a neat diagram of nuclear reactor.

70. a. Half life of radium is 226 in 1600 years. We start with 1mg of radium. What is the amount of radium after 4800 years?

b. Write any two uses of radio-isotopes.

71. a) Weight of an astronaut in the space is zero. Name this situation and give the reason for it.

b) Weight of a person increases as he moves from the equator towards the North pole.

What is the reason for it?

72. What is spectroscope? Mention any one use of each of the following
a) Line Emission Spectroscope b) Fraunhofer lines
73. Draw a neat diagram of nuclear power plant and label its parts.
74. Write a neat diagram of flower and label its parts.
75. Write the classification of plant tissue.
76. a) Which law of Kepler can be applied to calculate the mass of the sun b) Define weight. c) Write the value of Universal Gravitational Constant
77. Explain the following : a) Continuous emission spectrum b) Absorption emission spectrum
78. The value of 'Z' increases during beta decay. Why?
79. Where are the following isotopes used? a. Radio-phosphorus b. Radio-carbon
80. Write the schematic representation of chain reaction of U-235.

QUESTIONS' BANK

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