

Science Optional Part

61. Bakelite is used in making electrical appliances because it is a
- (1) thermoplastic
 - (2) good conductor of heat
 - (3) good conductor of electricity
 - (4) good insulator of electricity
62. In which of the following cases of motion, are the distance moved and the magnitude of displacement equal ?
- (1) A car moving on a straight road
 - (2) A car moving in a circular path
 - (3) A pendulum oscillating to and fro
 - (4) The Earth revolving around the Sun
63. LED and CFL are very commonly used as sources of light in homes. Which of the following statements is true ?
- (1) CFL is better because LED contains toxic materials
 - (2) LED is better because CFL contains toxic materials
 - (3) Both are equally good
 - (4) Neither of them is good because both contain toxic materials
64. An air bubble inside water behaves like a
- (1) concave lens
 - (2) convex lens
 - (3) plano-convex lens
 - (4) concave mirror
65. A feather weighing 5 gm and a nail weighing 10 gm have the same kinetic energy. Which of the following statements is true about the momentum of the two bodies ?
- (1) The lighter body will have higher momentum
 - (2) The heavier body will have higher momentum
 - (3) Both will have equal momentum
 - (4) It is not possible to compare the momentum of two objects
66. If the pressure over a liquid increases, its boiling point
- (1) decreases
 - (2) increases
 - (3) does not change
 - (4) first decreases and then increases
67. A doctor prescribes a medicine to treat hyperacidity. The main ingredient of the medicine is
- (1) $\text{Al}(\text{OH})_3$
 - (2) MgCl_2
 - (3) CaCO_3
 - (4) Na_2CO_3

68. Non-metallic oxides
- (1) are acidic in nature
 - (2) are basic in nature
 - (3) are amphoteric in nature
 - (4) turn red litmus paper blue
69. The inner surfaces of food cans are coated with tin and not with zinc because
- (1) zinc is costlier than tin
 - (2) zinc is more reactive than tin
 - (3) zinc has a higher melting point than tin
 - (4) zinc is less reactive than tin
70. A man goes door to door posing as a goldsmith. He promises to bring back the glitter on dull gold ornaments. An unsuspecting woman gives a set of gold bangles to him which he dips in a particular solution. The bangles sparkle but their weight has considerably reduced. The solution used by the impostor probably is
- (1) dil. HCl
 - (2) conc. HCl
 - (3) a mixture of conc. HCl and conc. HNO_3
 - (4) conc. HNO_3
71. Bleeding is stopped by the application of alum to a wound because
- (1) the wound is plugged by the alum chunk
 - (2) alum coagulates the blood and forms a clot
 - (3) alum reduces the temperature near the wound
 - (4) alum is an antiseptic
72. When an iron nail is dipped in copper sulphate solution, the colour of copper sulphate solution fades and a brownish layer is deposited over the iron nail. This is an example of
- (1) combination reaction
 - (2) decomposition reaction
 - (3) double displacement reaction
 - (4) displacement and redox reactions
73. While diluting sulphuric acid, it is recommended that the acid should be added to water because
- (1) acid has strong affinity for water
 - (2) acid may break the glass container
 - (3) dilution of acid is highly exothermic
 - (4) dilution of acid is highly endothermic
74. The thumb of humans moves more freely than other fingers due to the presence of
- (1) pivotal joint
 - (2) gliding joint
 - (3) hinge joint
 - (4) saddle joint

75. Root cap is absent in
- (1) Xerophytes
 - (2) Hydrophytes
 - (3) Mesophytes
 - (4) Halophytes
76. Adding salt and sugar to food substances helps in preserving them for a longer duration. It is because excess salt and sugar
- (1) plasmolyse the microbial cells
 - (2) cause rupturing of microbial cells
 - (3) cause change in the shape of microbial cells
 - (4) remove water from food
77. Hormone Adrenaline
- (1) helps control level of sugar in the blood
 - (2) helps the body to adjust stress level when one is very angry or worried
 - (3) helps control height
 - (4) helps control balance of electrolytes in the body
78. The green house effect which is causing an increase in the atmospheric temperature is mainly due to
- (1) oxygen
 - (2) nitrogen
 - (3) carbon dioxide
 - (4) sulphur
79. Green plants appear to release oxygen instead of carbon dioxide into the atmosphere during the day time because
- (1) green plants do not respire during the night time
 - (2) green plants respire only during the night time
 - (3) green plants respire during the day time but are involved in photosynthesis during the night time
 - (4) the rate of photosynthesis is higher than the rate of respiration during the day time
80. A common characteristic feature of plant sieve-tube cells and mammalian erythrocytes is
- (1) absence of nucleus
 - (2) absence of chloroplast
 - (3) absence of cell wall
 - (4) presence of haemoglobin
81. Most Boards of Education have banned the dissection of animals because
- (1) animals are no longer available for dissection
 - (2) procuring animals has become an expensive proposition
 - (3) there is a need to sensitise students to prevention of cruelty to animals
 - (4) they may spread new diseases

82. The main aim of conducting Mathematics and Science Olympiads is to
- (1) promote excellence in the subject by nurturing creativity and experimentation
 - (2) grade students according to their capabilities
 - (3) help students score high marks in professional examinations
 - (4) grade schools based on the performance of their students
83. Four applicants for a post of TGT (Science) were asked to plan a lesson on “Consequences of Deforestation”. Which one of the following lesson plans reflects the scientific approach ?
- (1) Explains in detail the consequences of deforestation
 - (2) Provides a variety of examples to explain the concept
 - (3) Includes activities that children can perform in groups and draw conclusions through a PowerPoint presentation
 - (4) Mentions about the use of ICT to help students understand the concept
84. Ms. Patel, Principal of a School XYZ, is keen about integrated approach to teaching of Science rather than teaching different disciplines separately. The basis of this is
- (1) non-availability of qualified teachers in her school to teach separate disciplines
 - (2) difficulty to adjust the teachers in the time-table
 - (3) difficulty of students to adjust to different teachers
 - (4) all the disciplines are interlinked and a teacher can draw on cross-curricular linkages
85. A teacher plans to teach “Components of Food” in Class-VI. Which of the following can be used as an essential question ?
- (1) List the food items your mother serves you in lunch.
 - (2) Why does your mother serve you a meal with a variety of food items ?
 - (3) Does your mother prepare a definite set of food items for lunch every day ?
 - (4) Do you eat all the items served in your lunch every day ?
86. While teaching the concept, “force can change the shape of an object” to students, a teacher plans the following activities :
- a. Explain concepts using commonly observed examples.
 - b. Provide a dough on a plate and ask the students to press it down with the hand.
 - c. Show an audio-visual film explaining the concept with some examples.

The teacher is using different approaches to learning because

- (1) she wants to prove her knowledge
- (2) she knows she must follow her lesson plan
- (3) she wants to prepare students for a test
- (4) there are different kinds of learners in the class and she wants to address multiple intelligences

87. Which of the following can be assessed when Geeta is using only MCQ as a tool to assess “Nutrition in Humans” ?

- (1) Analytical ability to classify food items and make a poster
- (2) Misconceptions related to food habits
- (3) Learners’ ability to apply knowledge and prepare a role play to present in the morning assembly
- (4) Learners’ ability to comprehend the importance of components of food and write a long essay

88. A Science teacher plans group activities to teach “Properties of Air” to her students of Class-VI. Which one set of attributes would she like to have in the students she selects as group leaders ?

- (1) Freedom to choose roles, work at their own pace and understanding
- (2) Ordering students to take roles and deliver in consonance with their understanding
- (3) Giving major roles to brighter students to ensure the group finishes first
- (4) Assigning roles as per capability, motivating and coordinating among the group members

89. While selecting a performance task to help students develop research oriented skills in a Science class, a teacher may pick up a topic

- (1) from the content given in the syllabus which must be completed in time
- (2) which majority of the students in a class find interesting
- (3) which she thinks is important for the students
- (4) related to a problem faced by students in their day-to-day functioning and which is a part of the concepts to be covered for this class

90. While investigating ‘how water affects the germination of seeds’, a teacher asked the students to soak bean seeds on a bed of cotton wool for a few days and observe the changes. What is the guideline that she forgot to mention ?

To place

- (1) many seeds on wet cotton
- (2) a few seeds on wet cotton
- (3) many seeds on dry cotton
- (4) a few seeds on dry cotton