ROAD TO BOARD

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Studymate Foundation Paper

Date : 20/01/2019 Duration : 90 Min. Max. Marks : 90	Science & Mathematics (Set-1)	CLASS VII

General Instructions:

1. All questions are compulsory.
2. Each question is allotted ONE mark for each correct response.
3. No deduction from the total score will be made if no response is indicated for the question in the answer sheet.
4. There is only **ONE** correct response for each question. Filling up **MORE THAN ONE** response in each question will be treated as wrong response and marks for wrong response will be deducted accordingly.
5. Use of calculators is not allowed.

Section A – Science

1. Choose the statement which is not correct in the case of an electric fuse.

(A) fuses are inserted in electric circuits of all buildings.

(B) these is a maximum limit on the current which can safely flow through the electric circuits.

(C) there is a minimum limit on the current which can safely flow in the electric circuits.

(D) if a proper fuse is inserted in a circuit is will blow off if current exceeds the safe limit.

2. When a switch is in OFF position,

(i) circuit starting from the positive terminal of the cell stops at the switch

(ii) circuit is open

(iii) no current flows through it

(iv) current flows after some time

Choose the combination of correct answer from the following

(A) all are correct (B) (ii) and (iii) are correct

(C) only (iv) is correct (D) only (i) and (ii) are correct

3. Which of the following precautions need not be taken while using electric gadgets/appliances/ circuit?

(A) we should never touch a lighted electric bulb connected to the mains.

(B) we should never experiment with the electric supply from the mains or a generator or an inverter.

(C) we should never use just any wire or strip of metal in place of a fuse.

(D) we should never turn the switch in ON position.

4. The unit to measure electric resistance is:

(A) joule (B) ohm (C) ampere (D) volt

5. The device used to make or break an electric circuit is:

(A) resistor (B) battery (C) switch (D) ammeter

6. Paheli and Boojho measured their body temperature. Paheli found her's to be 98.6°F and Boojho recorded 37°C. which of the following statement is true?

(A) Paheli has a higher body temperature than Boojho.

(B) Paheli has lower body temperature than Boojho.

(C) Both have normal body temperature.

(D) Both are suffering from fever.

7. Stainless steel pans are usually provided with copper bottoms. The reason for this could be that

(A) copper bottom makes the pan more durable

(B) such pans appear colourful

(C) copper is a better conductor of heat than the stainless steel

(D) copper is easier to clean than the stainless steel

8. Unit of heat energy is

(A) kilogram (B) metre (C) joule (D) degree

9. Bodies transmitting heat via radiation

(A) do not require any medium (B) are liquids only

(C) make heat travels in one direction only (D) solids only

10. In Fahrenheit scale, water freezes at

(A) 0° F (B) 32° F (C) 40° F (D) 212° F

11. Boojho and Paheli were given one mirror each by their teacher. Boojho found his image to be erect and of the same size whereas Paheli found her image erect and smaller in size. This means that the mirrors of Boojho and Paheli are, respectively

(A) plane mirror and concave mirror (B) concave mirror and convex mirror

(C) plane mirror and convex mirror (D) convex mirror and plane mirror

12. You are provided with a convex mirror, a concave mirror, a convex lens and a concave lens. You can get an inverted image from

(A) both concave lens and convex lens (B) both concave mirror and convex mirror

(C) both concave mirror and convex lens (C) all of these

13. The distance-time graph of a car which comes to a stop after covering a certain distance will be:

(A) a straight line sloping upwards (B) a curved line sloping downwards

(C) a straight line parallel to time axis (D) a straight line parallel to distance axis

14. A wooden spoon is dipped in a cup of ice-cream. Its other end

(A) becomes cold by the process of conduction.

(B) becomes cold by the process of convection.

(C) becomes cold by the process of radiation.

(D) does not become cold.

15. Which of the following features are that of a clinical thermometer?

(i) Short temperature range (ii) Wide temperature range

(iii) Alcohol filled glass bulb (iv) Constriction in glass tube

(A) (i) and (ii) (B) (ii) and (iii) (C) (i) and (iv) (D) (ii) and (iv)

16. The correct way of making a solution of acid in water is to

(A) add water to acid (B) add acid to water

(C) mix acid and water simultaneously (D) add water to acid in a shallow container

17. Products of a neutralisation reaction are always

(A) an acid and a base (B) an acid and a salt (C) a salt and water (D) a salt and a base

18. When the soil is too basic, plants do not grow well in it. To improve its quality what must be added to the soil?

(A) organic matter (B) quick lime (C) slaked lime (D) calamine solution

19. A solution changes the colour of turmeric indicator from yellow to red. The solution is

(A) basic (B) acidic

(C) neutral (D) either neutral or acidic

20. Sodium hydroxide is found in

(A) lemon (B) soap (C) oil of vitriol (D) table salt

21. The rearing of silkworms for obtaining silk is called

(A) cocoon (B) silk (C) sericulture (D) silviculture

22. Which of the following is not a type of silk?

(A) mulberry silk (B) tassar silk (C) mooga silk (D) moths silk

23. Reeling of silk is

(A) a process of making silk reels

(B) spinning of silk fibres

(C) weaving of silk cloth

(D) the process of taking silk threads from cocoon

24. Silworms secrete fibre made of

(A) fat (B) cellulose (C) protein (D) nylon

25. Which of the following statements is NOT true?

(A) workers in wool industry generally suffer from sorters disease

(B) bakharval is an Indian breed of sheep

(C) rayon is a nature fibre

(D) shearing is usually done in summer season

26. Which of the following is/are true when milk changes into curd?

(i) its state is changed from liquid to semi solid

(ii) it changes colour

(iii) it changes taste

(iv) the changte cannot be reversed

Choose the correct option from below:

(A) (i) and (ii) are correct (B) (ii) and (iii) are correct

(C) (i), (iii) and (iv) are correct (D) (i) to (iv) are correct

27. Galvanisation is a process used to prevent the rusting of which of the following?

(A) iron (B) zinc (C) alumimium (D) copper

28. Paheli's mother made a concentrated sugar syrup by dissolving sugar in hot water. On cooling, crystals of sugar got separated. This indicates a -

(A) physical change theat can be reversed (B) chemical change that can be reversed

(C) physical change that cannot be reversed (D) chemical change that cannot be reversed

29. Which of the following statement is incorrect for a chemical reaction?

(A) heat may be given out but never absorbed (B) sound may be produced

(C) a colour change may take place (D) a gas may be evolved

30. Which of the following is a physical change?

(A) rusting of iron (B) combustion of magnesium ribbon

(C) burning of candle (D) melting of wax

31. The process of breakdown of food in the cell is

(A) Digestion (B) Respiration (C) Assimilation (D) Nutrition

32. Inorganic waste that may present in sewage includes:

(A) Phosphates and Nitrates (B) Urea and Nitrates

(C) Phosphates and Metals (D) Both (A) and (C)

33. Forest serves as green _____ and water purifying system in nature.

(A) Kidney (B) Heart (C) Lungs (D) All of the above

34. Select the correct option from the given statement:

I In desert plant, photosynthesis is carried out by green stems.

II Plants can absorb gaseous form of Nitrogen present in air.

III Plants release oxygen during photosynthesis.

IV Leaves other than green in colour cannot perform photosynthesis.

(A) I and IV (B) Only III (C) I and III (D) I and II

35. Select the correct set of animals that live in forest.

(A) Porcupine and Boar (B) Bison and Jackal

(C) Semal and Jackal (D) Both (A) and (B)

36. Substance in leaves that helps in trapping of sunlight to synthesis of food is

(A) Chlorophyll (B) Stomata (C) Guard cells (D) Cytoplasm

37. Incorrect statements for saprotrophic mode of nutrition

(A) Organisms prepare its own food. (B) Organism feed on dead and decay matter.

(C) It's a heterotrophic mode of nutrition. (D) It's a mode of nutrition in fungi.

38. Which of the following is correct pairing for site of action and component of food on which bile juice act?

(A) Stomach – Protein (B) Small intestine – Fat

(C) Small intestine – Glucose (D) Stomach – Glucose

39. Match the following column.

Column I	***Column II***
1. HCL	(i) Protects lining of stomach
2. Saliva	(ii) Antibacterial
3. Rectum	(iii) Breaks starch
4. Mucous	(iv) Stores undigested waste

(A) 1. (iii); 2. (i); 3. (iv); 4. (i) (B) 1. (ii); 2. (iii); 3. (iv); 4. (i)

(C) 1. (i); 2. (iii); 3. (iv); 4. (ii) (D) 1. (ii); 2. (i); 3. (iv); 4. (iii)

40. Mark the mismatched pair

(A) Arteries – carries oxygenated blood (B) Vena cava – carries oxygen deficient blood

(C) Urea – excretory product in human (D) Ammonia – Excretory product in bird

41. Which of the following are water borne disease

(A) Cholera and Pneumonia (B) Typhoid and jaundice

(C) Hepatitis and Polio (D) Meningitis and Jaundice

42. After having cut due to injury, which of the following blood cells are responsible to prevent the loss of blood ?

(A) Red blood Cells (B) Platelets (C) White blood cells (D) All of the above

43. Anaerobes are organisms that can survive

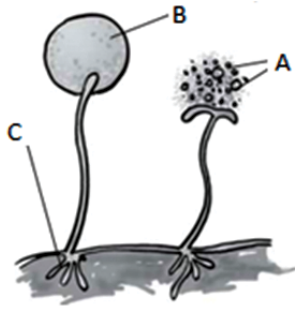
(A) In the absence of food (B) In the absence of oxygen

(C) In the absence of water (D) None of the baove

44. Bryophyllum can reproduce by

(A) Roots (B) Buds (C) Fragmentation (D) Stems

45. Select the correct option



(A) A – Spores; B – Sporangium; C – Hypha (B) A – Sporangium; B – Hypha; C – Spores

(C) A – Spores; B – Hypha; C – Sporangium (D) A – Hypha; B – Sporangium; C – Spores

Section B – Mathematics

46. (–8) + (–4) _____ (–8) – (–4)

(A) > (B) < (C) = (D) None of these

47. Pair of integers whose sum is –7:

(A) –3, 4 (B) –6, –1 (C) –6, 1 (D) 6, 1

48. $\frac{3}{5}+\frac{2}{5}$

(A) 1 (B) $\frac{7}{5}$ (C) $\frac{1}{5}$ (D) $\frac{10}{5}$

49. Ascending order of $\frac{7}{8},\frac{7}{5},\frac{7}{2},\frac{7}{3}$ is:

(A) $\frac{7}{2},\frac{7}{3},\frac{7}{5},\frac{7}{8}$ (B) $\frac{7}{8},\frac{7}{5},\frac{7}{3},\frac{7}{2}$ (C) $\frac{7}{8},\frac{7}{3},\frac{7}{2},\frac{7}{5}$ (D) $\frac{7}{2},\frac{7}{8},\frac{7}{5},\frac{7}{3}$

50. Area of rectangle with length $3\frac{1}{3}$ m and breadth $\frac{7}{10}$ m is:

(A) $3\frac{1}{2}m^2$ (B) $2\frac{1}{3}m^2$ (C) $1\frac{2}{3}m^2$ (D) $1\frac{3}{2}m^2$

51. $\frac{1}{4}$ of $\frac{3}{5}$ is:

(A) $\frac{3}{20}$ (B) $\frac{20}{3}$ (C) $\frac{12}{5}$ (D) $\frac{5}{12}$

52. 1 part out of 10 equal parts means:

(A) $\frac{1}{10}$ (B) $\frac{10}{1}$ (C) $\frac{10}{10}$ (D) $\frac{1}{100}$

53. The average of 4.2, 3.8 and 7.6 is:

(A) 4.2 (B) 3.8 (C) 5.2 (D) 5.6

54. The sum of three times x and 11 is 32.

(A) $3x = 32 + 11$ (B) $3x + 11 = 32$ (C) $3x = 32$ (D) $x = 3 \times 32$

55. Solution of $n + 5 = 19$ is:

(A) $n = 1$ (B) $n = -2$ (C) $n = 14$ (D) $n = 0$

56. Statement form of $x - 5 = 9$ is:

(A) The sum of x and 5 is 9. (B) The number 9 divided by x gives 5.

(C) 5 times x is 9. (D) Taking away 5 from x gives 9.

57. What would be the possible equation for the solution $m = 3$?

(A) $3m + 3 = 12$ (B) $3m = 2$ (D) $4m - 7 = 9$ (D) $8m + 2 = 0$

58. What does sum mean in any word problem?

(A) Addition (B) Multiplication (C) Subtraction (D) Division

59. In equation $3y + 5 = 44$, transposing 5 gives:

(A) $3y = 49$ (B) $3y = 39$ (C) $3y = \frac{44}{5}$ (D) $3y = 44 \times 5$

60. A line segment AB is denoted by:

(A) $\overleftarrow{AB}$ (B) $\overline{AB}$ (C) $\overset{\frown}{AB}$ (D) $\overrightarrow{AB}$

61. Complement of 60° is:

(A) 30° (B) 120° (C) 90° (D) 180°

62. Supplement of 70° is:

(A) 20° (B) 90° (C) 180° (D) None of these

63. The angles in a linear pair are:

(A) Complementary (B) Supplementary (C) Complete (D) Alternate angles

64. When a transversal cuts two lines, such that pair of alternate interior angles are equal, the lines have to be:

(A) intersecting lines (B) parallel lines (C) perpendicular lines (D) None of these

65. A line segment has _____ end points.

(A) 2 (B) no (C) 3 (D) 1

66. How many medians can a triangle have?

(A) 3 (B) 2 (C) 4 (D) 5

67. The total measure of the three angles of a triangle is:

(A) 90° (B) 360° (C) 180° (D) 540°

68. A triangle in which two sides are of equal lengths is called a/an:

(A) equilateral triangle (B) scalene triangle

(C) isosceles triangles (D) acute angles triangle

69. The sum of the lengths of any two sides of a triangle is _____ the third side.

(A) less than (B) greater than (C) equal to (D) none of these

70. If the Pythagoras property holds, the triangle must be:

(A) right angled (B) obtuse angled (C) acute angled (D) equilateral

71. If one side of equilateral triangle is 5 cm long, the sum of other two sides is:

(A) 10 cm (B) 15 cm (C) 5 cm (D) 20 cm

72. In ΔABC, $\angle BAC = 90°$, $\angle ABC = 60°$ and $\angle ACB = 30°$, AC is produced to D, then the measure of interior angle $\angle BCD$ =

(A) 90° (B) 150° (C) 120° (D) 180°

73. In rational number $\frac{p}{q}$, which of the following condition is true?

(A) $q = 0$ (B) $q \neq 0$ (C) $p = 0$ (D) $p \neq 0$

74. Equivalent fraction of $\frac{1}{3}$ is:

(A) $\frac{2}{4}$ (B) $\frac{2}{6}$ (C) $\frac{6}{2}$ (D) $\frac{3}{1}$

75. Standard form of $\frac{45}{30}$ is:

(A) $\frac{3}{2}$ (B) $\frac{9}{6}$ (C) $\frac{30}{45}$ (D) $\frac{45}{1}$

76. $\frac{4}{-9}$ _____ $\frac{-16}{36}$

(A) > (B) < (C) = (D) none of these

77. Additive inverse of $\frac{4}{7}$ is:

(A) $\frac{7}{4}$ (B) $\frac{-4}{7}$ (C) $\frac{-7}{4}$ (D) $\frac{8}{14}$

78. Reciprocal of $\frac{-6}{11}$ is:

(A) $\frac{-11}{6}$ (B) $\frac{11}{6}$ (C) $\frac{6}{11}$ (D) $\frac{-12}{22}$

79. 1 hectare = _____ m^2

(A) 10,000 (B) 1,000 (C) 100 (D) 1,00,000

80. Formula for area of rectangle is

(A) $l \times b$ (B) $\frac{1}{2} \times b \times h$ (C) $b \times h$ (D) πr^2

81. A rectangle with dimensions 9m × 4m and a square with side 5 m. Which of the following statement is true:

(A) area of rectangle > area of square (B) area of square > area of rectangle

(C) area of square = area of rectangle (D) area of square < area of rectangle

82. The perimeter of rectangle is 130 cm. If the breadth of the rectangle is 30 cm, its length is

(A) $\frac{13}{3}$ cm (B) 35 m (C) 35 cm (D) 100 cm

83. If the area of the parallelogram is 24 cm^2 and the base is 4 cm, its height is

(A) 6 cm (B) 4 cm (C) 12 cm (D) 8 cm

84. If *C* represents circumference of the circle, r represent radius, then diameter is :

(A) $C \times \pi$ (B) $\frac{C}{2}$ (C) $\frac{C}{\pi}$ (D) $2c\pi$

85. Circumference of the circle with radius 28 mm is

(A) 100 mm (B) 56 mm (C) 88 mm (D) 176 mm

86. Value of 5^4 is:

(A) 625 (B) 3125 (C) 125 (D) 250

87. Simplified exponential form of $8^2 \div 2^3$ is:

(A) 2^3 (B) 2^4 (C) 18 (D) 2^5

88. Standard form of 5985.3 is:

(A) 5.9853×10^3 (B) 59.853×10^4 (C) 59.853×10^3 (D) 5.9×10^3

89. Expanded form of $9 \times 10^5 + 2 \times 10^2 + 3 \times 10^1$ is:

(A) 90230 (B) 900230 (C) 923 (D) 9023

90. $(-4\ m)^3$ = _____

(A) $-64\ m^3$ (B) $64\ m^3$ (C) $16\ m^2$ (D) $4\ m^2$

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