



Brilliant STUDY CENTRE

PALA

FOUNDATION PROGRAMME **CLASS IX** 01-11-2020

SCREENING CUM SCHOLARSHIP TEST

(Students who are studying in Class VIII)

PHYSICS + CHEMISTRY + BIOLOGY + MATHEMATICS

Name of the Candidate :	
Mobile No. :	
E-mail Id :	
Class & Name of the School Studying :	
Roll number :	

INSTRUCTIONS

1. Please ensure stable internet connection before the commencement of the examination.
2. As this is an online exam please ensure that you have entered the personal and exam details without fail and ensure that there are 100 questions in your format.
3. The students may attend the exam from home or any other convenient place
4. Blank paper, clipboard, slide rules etc can be used for rough work.
5. Ensure that the candidate is not communicating with any other person throughout the exam duration.
6. Electronic gadgets in any form are not allowed to be used during the exam time.
7. The steady presence of the candidate in front of the system is absolutely necessary.
8. Presence of any other person near the system will not be allowed.
9. Each question has 4 possible options, of which only one is deemed as the most appropriate.
YOU ARE ASKED TO SELECT THE MOST APPROPRIATE OPTION AS THE CORRECT ANSWER.
10. Each correct answer will be awarded **FOUR** marks and one mark will be deducted for each incorrect answer. No negative marks for unattended questions.
11. Kindly be noted that your movements will be monitored under a proctoring suite and any malpractice will automatically result in the termination of the examination.

1. Which of the following statements are correct
 - i) Sound is produced by vibrations
 - ii) Sound requires a medium for propagation
 - iii) Light and sound both require a medium for propagation
 - iv) Sound travels slower than light

A) i and ii B) i, ii and iii C) ii, iii and iv D) i, ii and iv
2. Lightning can be seen at the moment when it occurs. Paheli observes lightning in her area. She hears the sound 5s after she observed lightning. How far is she from the place where lightning occurs?[Speed of sound = 330 m/s]

A) 2 km B) 5 km C) 1.65 km D) 2.35 km
3. In a 'dholak' sound is produced due to

A) Stretched membrane B) Air column C) Stretched string D) The vibration of air
4. When sound wave propagate from west to east then in which direction do the particles of air move?

A) West to east B) South to west C) Up and down D) None of these
5. Which of the following are NOT in uniform motion?
 - i) A bullet travelling with a constant speed in a straight line
 - ii) A swinging pendulum
 - iii) The rotation of earth

A) only i and ii B) only ii and iii C) iii only D) ii only
6. A truck travels 840 km using 60 litres of diesel. What is the fuel consumption of the truck?

A) 14 km per litre B) 14 litre per km

C) 140 km per litre D) 140 litre per km

SPACE FOR ROUGH WORK

7. A water pipe has water flowing through it. Which of the following changes would increase the speed of water flow through the pipe?
- A) increase the length of pipe B) make the pipe coiled
C) increase the water pressure D) none of these
8. A car moves with a speed of 80 km/h for 15 minutes and then with a speed of 60 km/h for the next 15 minutes. The total distance covered by the car is
- A) 100 km B) 50 km C) 35 km D) 70 km
9. A student walks to his school which is at a distance of 3 km from his home in 30 minutes. On reaching the school he finds that the school is closed and comes back by a bicycle with friend and reaches home in 20 minutes. His average speed in km/h is
- A) Zero B) 7.2 C) 6 D) 12
10. Which of the following cannot be used for the measurement of time
- A) A leaking tap B) Simple pendulum
C) Shadow of an object during day D) Blinking of eyes
11. The mercury thread of a thermometer rises by $\frac{4}{5}$ parts between two standard points on Celsius scale, when it is placed in warm water. Calculate the temperature of water in Fahrenheit scale.
- A) 160°F B) 100°F C) 142°F D) 176°F
12. 100g of water at 60°C is added to 180 g of water at 95°C. The resultant temperature of the mixture is
- A) 80°C B) 82.5°C C) 85°C D) 77.5°C
13. When heat energy is incident on a body, then
- A) It is reflected B) It is absorbed
C) It is transmitted through it D) All the above

SPACE FOR ROUGH WORK

14. In a thermo flask, heat loss by conduction and convection can be avoided by
- A) Providing vaccum between the two walls of the flask
 - B) Filling the space between the two walls of the flask with cork which is a bad conductor of heat
 - C) Providing a shining glass
 - D) All the above
15. A convex mirror is made by cutting a hollow sphere of radius of curvature 20 cm. Find the focal length of the mirror
- A) 20 cm
 - B) 40 cm
 - C) 10 cm
 - D) Data insufficient
16. V_V, V_R, V_G are the velocities of violet, red and green light respectively in a glass slab. Which among the following is a correct relation?
- A) $V_V = V_R = V_G$
 - B) $V_V > V_R > V_G$
 - C) $V_V < V_G < V_R$
 - D) $V_V < V_R < V_G$
17. The angle which the incident ray makes with the mirror is called
- A) Angle of incidence
 - B) Angle of reflection
 - C) Right angle
 - D) Glancing angle of incidence
18. A concave mirror is placed on a table with its pole touching the table. The mirror is rotated about its principal axis in clockwise direction. The image of a person looking straight into it
- A) Does not rotate
 - B) Rotates in clockwise direction
 - C) Rotates in anti-clockwise direction
 - D) None of these
19. On mixing the colours yellow and cyan, the colour obtained is
- A) Red
 - B) Green
 - C) Blue
 - D) Black
20. An electric current passing through a conductor is 5A. Calculate the number of electrons that pass through the conductor in 1 micro second
- A) 3.12×10^{13}
 - B) 5×10^{-6}
 - C) 1.6×10^{-19}
 - D) Zero
21. Calculate the power of an electric bulb which consumes 2400 J in a minute
- A) 60 W
 - B) 40 W
 - C) 65 W
 - D) 2400 W

SPACE FOR ROUGH WORK

22. An electric device which converts mechanical energy into electrical energy is
A) a DC generator B) an AC generator C) An electric cell D) Both A and B
23. The resistance of a current carrying wire depends on
A) Area of cross section B) Length
C) Material of the wire D) All the above
24. The force of attraction between two charged bodies depends on
A) The quantity of charge present on each charged body
B) Distance between charged bodies
C) The medium separating charged bodies
D) All the above
25. A bulb is connected to a cell and the potential difference across the terminals of the bulb is 24 V. If 3A of current flows through the bulb, then the resistance of its filament is
A) 72 Ω B) 3 Ω C) 8 Ω D) 24 Ω
26. The silk worm is :
a) a caterpillar b) a larva
Choose the correct option :
A) a B) b C) both a & b D) neither a nor b
27. Which of the following does not yield wool?
A) Yak B) Camel C) Goat D) Woolly dog
28. The general process that takes place at a sheep shearing shed is :
A) removal of fleece
B) separating hair of different textures
C) Washing of sheep fibre to remove grease
D) Rolling of sheep fibre into Yarn

SPACE FOR ROUGH WORK

29. The rearing of silk worm for obtaining silk is called :
- A) cocoon B) silk C) sericulture D) silviculture
30. Appu wanted to buy a gift made of animal fibre obtained without killing the animal. Which of the following would be the right gift for him to buy?
- A) Woolen shawl B) Silk scarf C) Animal fur cap D) Leather jacket
31. Silk fibre is obtained from :
- A) Fleece of sheep B) Cotton ball C) Cocoon D) Shiny jute stable
32. Wool fibre cannot be obtained from which of the following :
- A) Goat B) Llama C) Alpaca D) Moth
33. Silk worms secretes fibre made of :
- A) Fat B) Cellulose C) Protein D) Nylon
34. What makes the basis of sorting materials in to groups?
- A) Similarities in their properties
B) Differences in their properties
C) Both similarities and differences in their properties
D) All of these
35. Which one will show a metallic lustre?
- A) any surface of a metal B) freshly cut surface of a metal
C) Freshly cut surface of non-metal D) Surfaces of all materials
36. Purpose of sorting materials into groups is :
- A) to study their properties B) Convenience
C) Both A and B D) Inconvenience
37. Which is the set of transparent materials?
- A) Glass and air B) Water and glass C) Water and air D) All of these

SPACE FOR ROUGH WORK

38. Choose the opaque object from the following :
- A) Charcol B) Air C) Glass D) Water
39. Which one of the following is not soluble in water?
- A) Turmeric powder B) Common salt C) Alum D) All are soluble
40. What are the methods of separating solid impurities suspended in liquid?
- A) Chlorination B) Melting C) Sedimentation D) Sieving
41. What is the process that is used to separate grain from stalks?
- A) Sedimentation B) Threshing C) Sieving D) Winnowing
42. is used to separate heavier and lighter components of a mixture by blowing air :
- A) Melting B) Evaporation C) Condensation D) Winnowing
43. How can we separate mustard seed mixed with wheat?
- A) Sieving B) Winnowing C) Threshing D) None of these
44. Which of the following mixtures would you be able to separate using the method of filtration?
- A) Oil in water B) Cornflakes in milk C) Salt in water D) Sugar in milk
45. Impurities settled at the bottom when muddy water was kept overnight in a bucket. The clear water was then poured off from the top. The process of separation used in this example is called :
- A) Decantation B) Filtration
C) Sedimentation followed by decantation D) Evaporation
46. Which of the following changes can be reversed?
- A) Raw egg to boiled egg B) Wet clothes to dry clothes
C) bud to flower D) Cow dung to biogas
47. Which of the following changes cannot be reversed?
- A) Milk to Paneer B) Cold milk to hot milk
C) Yarn to knitted sweater D) Ice melting to water

SPACE FOR ROUGH WORK

56. Count the number of correct statements.
- 1) Pancreas also secrete digestive juices
 - 2) Digestive system constitutes digestive tract and associated glands
 - 3) Take in food in to the body is called ingestion
 - 4) Saliva convert starch into simple sugar
- A) 2 B) 4 C) 3 D) 1
57. In human digestive tract hydrochloric acid is produced in
- A) Buccal cavity B) Liver C) Stomach D) Oesophagus
58. The digestive juices produced in the stomach of man break down
- A) Carbohydrate in to glucose B) Proteins in to simple factors
- C) Fat into fatty acid D) Starch in to maltose
59. Match the following column I and II

I		II	
1	Small intestine	a	Absorb water
2	Large intestine	b	Brake down of fat
3	Bile	c	Cellulose digestion
4	Ruminate animals	d	Villi

- A) 1-d, 2-a, 3-b, 4-c B) 1-a, 2-d, 3-c, 4-b
- C) 1-c, 2-a, 3-d, 4-b D) 1-d, 2-b, 3-a, 4-c
60. The term pseudopodia is associated with
- A) Gall Bladder B) Ruminate animals
- C) Bacteria D) Amoeba

SPACE FOR ROUGH WORK

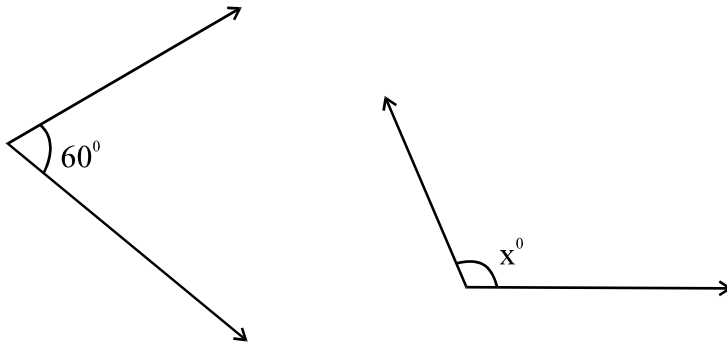
61. The average weather pattern of a block of time is called.
A) Humidity B) Precipitation C) Climate D) Environment
62. The mismatched pair is
A) Tropical rainforest - Western ghats
B) Camouflage - Colour change
C) Penguins - Tropical rain forest
D) Tusk of elephant - Modified teeth
63. If anaerobic respiration takes place in plants the byproduct obtained is.
A) Lactic acid B) Alcohol C) Pyruvic acid D) Glucose
64. The number of times a person breathes in a minute is termed as
A) Inhalation B) Exhalation
C) Breathing rate D) Cellular respiration
65. Which one of the following statement is correct.
A) During inhalation diaphragm move down and ribs move up
B) During inhalation diaphragm move up and ribs move down
C) During inhalation mouth diaphragm and ribs move up
D) During inhalation both diaphragm and ribs move down.
66. In lichens the chlorophyll containing partner is
A) Algae B) Fungi
C) Some green leaves of plants D) All of the above
67. The teeth which is used for tearing of food is
A) molars B) Canines C) Incisors D) Pre molars
68. Among the following which one is not a region with out tropical rain forest
A) India B) Green land C) Indonesia D) Brazil

SPACE FOR ROUGH WORK

69. The oxygen carrying pigment in the blood of human is.
 A) Anthocyanin B) Leghaemoglobin C) Haemoglobin D) Melanin
70. All arteries carry oxygenated blood except
 A) Coronary artery B) Pulmonary artery C) Renal artery D) Both B and C
71. The cells responsible for the opening and closing of stomata is
 A) Subsidiary cells B) Spongy cells C) Guard cells D) Palisade cells
72. An organism which is reproduce through budding is
 A) Yeast B) Hydra C) Both A and B D) Spirogyra
73. Find the mismatched pair
 A) Potato - Vegetative propagation through 'eye'
 B) Rose - Propagation through stem cutting
 C) Spirogyra - Spore from sporangium
 D) Papaya - Unisexual flowers.
74. The single cell that is formed after the fusion of gametes is
 A) Zygote B) Egg C) Embryo D) Pollen
75. Among the following which one is seed dispersed through wind
 A) Coconut B) Xanthium C) Maple D) Castor
76. $(-3) \times x = 27$ and $-30 \div y = 3$. Then the reciprocal of $\frac{x}{y}$ is :
 A) $\frac{10}{9}$ B) $\frac{9}{10}$ C) $\frac{19}{10}$ D) $\frac{10}{19}$
77. At Ooty the temperature was -7°C on Sunday and then it dropped by 2°C on Monday. On Tuesday it rose by 5°C . What is the additive inverse of the temperature on Tuesday
 A) -4°C B) 4°C C) 9°C D) -9°C

SPACE FOR ROUGH WORK

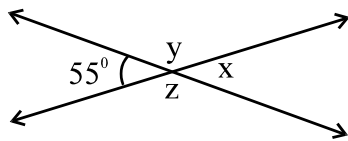
84. Consider the following pairs of angles



x° is the supplement of angle 60° . Then x° is

- A) 30° B) 120° C) 210° D) 180°

85.



The values of x , y and z respectively are

- A) $x = 55$ $y = 125$ $z = 60$ B) $x = 55$ $y = 125$ $z = 125$
 C) $x = 125$ $y = 55$ $z = 55$ D) $x = 55$ $y = 60$ $z = 180$

86. $x = 3 + \frac{4}{1 + \frac{5}{1 + \frac{6}{5}}}$ and $y = 5 + \frac{1}{4 + \frac{1}{2 - \frac{1}{2}}}$. Then $x + y$

- A) $\frac{38}{9}$ B) $\frac{73}{14}$ C) $\frac{1189}{126}$ D) $\frac{126}{1189}$

SPACE FOR ROUGH WORK

87. Identify the statement which is not false

A) Every rational number has a reciprocal

B) When $\left(\frac{a}{b}\right)$ is divided by $\left(\frac{c}{d}\right)$ then $\left(\frac{c}{d}\right)$ is called the dividend

C) Between any two rational numbers there exist only finite number of rational numbers

D) Subtraction of rational numbers is not commutative

88. $\frac{3P+2}{5} - \frac{4P-3}{7} + \frac{P-1}{35} = 4$. Then P =

A) 65

B) 50

C) 56

D) 58

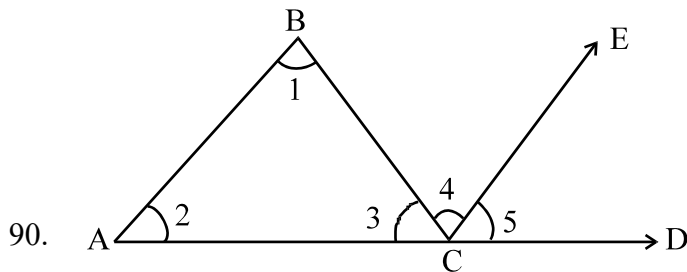
89. The length of a rectangle is 40 cm and a diagonal is 41 cm. Let 'P' be the perimeter of the rectangle. Then $\sqrt{P-17} =$

A) 9

B) 8

C) 10

D) 11



Which of the following is correct

A) $\angle 1 + \angle 2 = 180 - \angle 3$

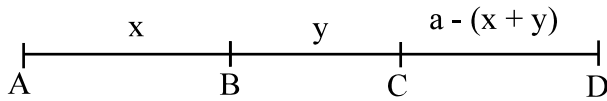
B) $\angle 1 + \angle 3 = \angle 4 + \angle 5$

C) $\angle 1 + \angle 2 = \angle 4 + \angle 5$

D) A and C are correct

SPACE FOR ROUGH WORK

91. A line segment of length 'a' is cut into 3 pieces as shown below to form a triangle



Which of the following is true

- A) $2x + 2y = a$ B) $x + y < \frac{a}{2}$ C) $x + y > \frac{a}{2}$ D) none
92. An algebraic expression having 3 terms is called a
- A) Binomial B) Monomial C) Trinomial D) Cubic polynomial
93. A polynomial of degree 4 is called
- A) Quadratic B) Cubic C) Multinomial D) Biquadratic
94. The Algebraic expression $5x - \{4x - (3x - 2y)\}$ is same as
- A) $4x - 2y$ B) $4x + 2y$ C) $2y - 4x$ D) $4x - y$
95. Ria was asked to multiply a number by 25. Instead she multiplied the number by 52 and got an answer 324 more than the correct answer. The number to be multiplied was
- A) 24 B) 12 C) 16 D) 18
96. The difference between two numbers is 108 less than their sum. If the larger number is twice the smaller number, the difference between the numbers is
- A) 45 B) 58 C) 54 D) 85
97. The number 2 is multiplied 'n' times and the result is x. The number 4 is multiplied 'm' times and the result is y. Then the product of x and y is
- A) 2^{2m} B) 2^{2n+1} C) 2^{2m+n} D) 2^{2n+m}
98. If 'n' is a natural number, then $(-1)^{2n+1}$ is
- A) 1 B) -1 C) Either 1 or -1 D) None of these

SPACE FOR ROUGH WORK

99. $x = (-2)^{-5}$ and $y = (-3)^{-4}$ then $\frac{x}{y} =$

A) $\frac{32}{81}$

B) $\frac{81}{32}$

C) $\frac{-32}{81}$

D) $-\frac{81}{32}$

100. $\frac{5^{-3} \times 5^{-2}}{(25)^{-4} \times (25)^{-3}} =$

A) 5^{11}

B) 5^{-9}

C) 5^9

D) 5^{-11}

SPACE FOR ROUGH WORK

INTEGRATED - CLASS IX(STUDYING VIII) - KEY

PHYSICS

1. D
2. C
3. A
4. A
5. B
6. A
7. C
8. C
9. B
10. D
11. D
12. B
13. D
14. A
15. C
16. C
17. D
18. A
19. B
20. A
21. B
22. D
23. D
24. D
25. C

CHEMISTRY

26. C
27. D
28. A
29. C
30. A
31. C
32. D
33. C
34. cancelled
35. B
36. C
37. D
38. A
39. A
40. C
41. B
42. D
43. A
44. B
45. C
46. B
47. A
48. A
49. A
50. D

BIOLOGY

51. C
52. B
53. D
54. A
55. B
56. B
57. C
58. B
59. A
60. D
61. C
62. C
63. B
64. C
65. A
66. A
67. B
68. B
69. C
70. B
71. C
72. C
73. C
74. A
75. C

MATHEMATICS

76. A
77. B
78. C
79. D
80. B
81. C
82. C
83. A
84. B
85. B
86. C
87. D
88. C
89. A
90. D
91. C
92. C
93. D
94. A
95. B
96. C
97. C
98. B
99. D
100. C