

TEST ID

601



Brilliant STUDY CENTRE

PALA

QUESTION  
BOOKLET CODE

C

**FOUNDATION PROGRAMME CLASS IX**     **23-10-2021**  
**MOCK TEST**

**(Students who are studying in Class VIII)**

**PHYSICS + CHEMISTRY + BIOLOGY + MATHS**

<b>Time : 120 minutes</b>	<b>Number of Questions : 100</b>	<b>Maximum Marks : 400</b>
Name of the Candidate :		
Signature of Candidate :		
Phone Number / Mobile No. :		
Name of the School Studying :		
Class Studying :		<b>Roll. No.</b>
Test Centre:		Signature of Invigilator

**INSTRUCTIONS**

1. Please fill in the items such as name, signature, centre etc. of the candidate in the columns given above.
2. Please ensure the given question booklet, is for your class itself.
3. This question booklet contains 100 questions. For each question, four answers are suggested and given against (A), (B), (C) and (D) of which, only one will be the **Most Appropriate Answer**. Mark the bubble containing the letter corresponding to the 'Most Appropriate Answer' in the OMR answer sheet, by using either **Blue or Black ball - point pen only**
4. Each correct answer will be awarded **FOUR** marks. **ONE** mark will be deducted for each **incorrect answer**. More than one answer marked against a question will be deemed as an incorrect response and will be negatively marked. No negative mark for unattended questions.
5. All the rough work is to be done in the blank space provided in the question paper.
6. **WARNING:** Any malpractice or any attempt of malpractice, in the Examination, will **DISQUALIFY THE CANDIDATE**.
7. **Return the OMR Answer sheet to the invigilator at the end of the examination.**

**IMMEDIATELY AFTER OPENING THIS QUESTION BOOKLET, THE CANDIDATE SHOULD VERIFY WHETHER THE QUESTION BOOKLET ISSUED CONTAINS ALL THE 100 QUESTIONS IN SERIAL ORDER. IF NOT, REQUEST FOR REPLACEMENT**

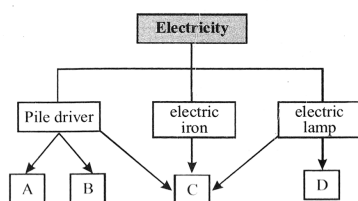
## PHYSICS

1. A cat of mass 8 kg is running after a rat with a uniform acceleration of  $1\text{ m/sec}^2$ . After running 40 m it gets success to catch the rat. The work done by the cat in the process is  
A) 320 J                      B) 640 J                      C) 5 J                      D) 10 J
2. A man throws a ball with a force of 20 N. Find the distance covered by the ball if work done is 60 J in this process.  
A) 3m                      B) 9m                      C) 6m                      D) 12m
3. A boy pushes a toy cart along a level road and then lets it go.  
As the cart is slowing down, the biggest energy change is from  
A) heat to kinetic  
B) kinetic to heat  
C) kinetic to potential  
D) potential to heat
4. No work is done when  
A) a nail is plugged into a wooden board  
B) a box is pushed along a horizontal floor  
C) there is no component of force parallel to the direction of motion  
D) there is no component of force normal to the direction of force
5. The potential energy of a freely falling object decreases progressively.  
A) The law of conservation of energy is violated  
B) Potential energy gets converted into kinetic energy progressively  
C) Sum of Potential Energy and Kinetic Energy at any point during the free fall remains constant  
D) Both B and C

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**SPACE FOR ROUGH WORK**

6. The flowchart below shows the conversion of electricity to other forms of energy by three electrical appliances



Which of the options below best represents the forms of the energy produced by the appliances?

- |    | A       | B       | C       | D     |
|----|---------|---------|---------|-------|
| A) | Heat    | Light   | Kinetic | Sound |
| B) | Kinetic | Heat    | Sound   | Light |
| C) | Kinetic | Sound   | Light   | Heat  |
| D) | Sound   | Kinetic | Heat    | Light |
7. One litre of water at 30<sup>0</sup> C is mixed with one litre of water at 50<sup>0</sup> C. The temperature of the mixture will be  
 A) 80<sup>0</sup>C  
 B) more than 30<sup>0</sup>C and 50<sup>0</sup>C  
 C) 20<sup>0</sup>C  
 D) between 30<sup>0</sup>C and 50<sup>0</sup> C
8. Two laboratory thermometers are made as 'A' and 'B'. The bulb of thermometer 'A' is wrapped in a white cloth and that of thermometer 'B' in black cloth. Both the thermometers are placed in sunlight for an hour. After one hour:  
 A) Both the thermometers will read the same temperature  
 B) Thermometer 'A' will show higher temperature than B  
 C) Thermometer 'B' will show higher temperature than A  
 D) None of the above is correct
9. Rooms are fitted with ventilators to let the air move around. The phenomenon involved is  
 A) conduction                      B) convection                      C) radiation                      D) condensation

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**SPACE FOR ROUGH WORK**

10. Two bodies P and Q are in contact with each other, such that P is at a higher temperature than Q. When equilibrium temperature is reached “X” units of heat energy is given by the body P. The heat energy received by the body Q is:

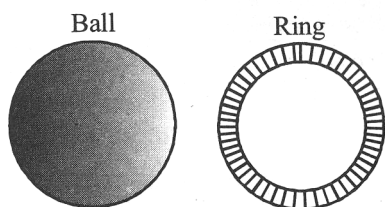
- A) more than X      B) less than X      C) equal to X      D) None of these

11. **Column I**                      **Column II**

- a) Melting                      p) Solid to gas  
b) Sublimation                q) Solid to liquid  
c) Condensation               r) Gas to liquid  
d) Vaporisation               s) Liquid to gas

- A) a → (q), b → (p), c → (r), d → (s)      B) a → (s), b → (p), c → (q), d → (r)  
C) a → (p), b → (q), c → (r), d → (s)      D) a → (r), b → (s), c → (p), d → (q)

12. Consider the figures of a metal ball and a metal ring given below:



The metal ball can just pass through the hole of a metal ring formed out of a strip. When the ball is heated it gets stuck. But when the metal ring is heated.

- A) The ball will not pass through because there is no change in the ring  
B) The ball can now pass through it because the ring diameter expands on heating  
C) The ball gets stuck because the diameter of the hole decreases on expansion  
D) None or the above

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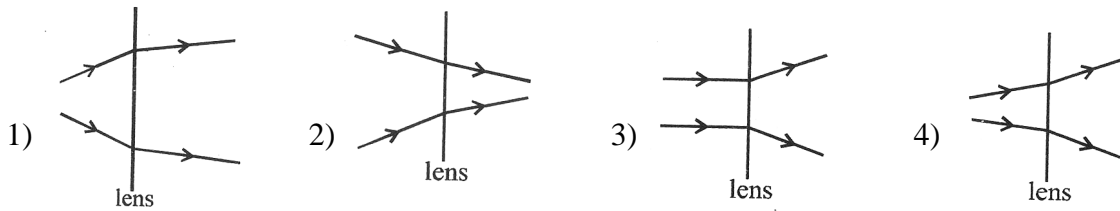
SPACE FOR ROUGH WORK

13. The distance between a plane mirror and the image of an object placed in front of the mirror is 4 m. If now the object is moved 1m towards the mirror, then the distance between the object and its image in the mirror will be
- A) 3m                      B) 5m                      C) 6m                      D) 8m
14. The length of the shadow will be longest when the :
- A) Angle between the source of light and the object is  $45^\circ$   
B) Source of light and the object are parallel to each other  
C) Source of light and the object are perpendicular to each other  
D) Angle between the source of light and the object is  $60^\circ$
15. The sun is seen before the actual sun rise because of
- A) reflection    B) refraction  
C) scattering of light                                      D) rectilinear propagation of light
16. On the basis of following features identify the correct option
- I) Image formed is virtual and erect  
II) Size of image formed is equal to size of object  
III) The right side of the object appears as the left of its image and vice-versa
- A) Concave mirror    B) Convex mirror  
C) Plane mirror    D) Both a and b
17. In nature, rainbow is formed due to the dispersion of sunlight. The optical aid responsible for it is/ are:
- A) molecules of carbon dioxide  
B) tiny droplets of water  
C) molecules of nitrogen dioxide  
D) none of the above

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SPACE FOR ROUGH WORK

18. Which diagram shows rays of light passing through a converging lens?



- A) 1 and 2                      B) 2 and 3                      C) 3 only                      D) 4 only

19. MCB

- A) is a device based on heating effect of current  
 B) is a device based on magnetic effect of current  
 C) is a switch which automatically turns off when current in it exceeds the safe limit  
 D) all of these

20. When current is passed through an electric bulb, its filament glows, but the leading wire of the bulb does not glow because-

- A) less current flows in the leading wire as compared to that in the filament  
 B) the leading wire has more resistance than the filament  
 C) the leading wire has less resistance than the filament  
 D) filament has coating of fluorescent material over it

21. The proper representation of series combination of cells obtaining maximum potential is

- A)                      B)   
 C)                      D)

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**SPACE FOR ROUGH WORK**

22. When the strength of the current flowing through a coil is increased
- A) strength of the magnetic field decreases
  - B) Strength of the magnetic field increases
  - C) amount of heat generated due to resistance decreases
  - D) Strength of the magnetic field remains constant
23. What causes air circulation from poles to warmer latitudes?
- A) Air at poles is colder as compared to air at latitudes about 60 degrees
  - B) Air at poles is hotter as compared to air at latitudes of about 60 degrees
  - C) Temperature of air is almost same at poles as at latitudes of 60 degrees
  - D) None of the above
24. Tornadoes are dark funnel shaped clouds that reach from
- A) the sky to the ground
  - B) the ground to the sky
  - C) any one of (a) or (b)
  - D) None of these is correct
25. Why are cloudy nights warmer than clear nights?
- A) The clouds do not allow the heat radiating from the earth to escape
  - B) Amount of the moisture in the air increases
  - C) The clouds result in heavy rainfall at night
  - D) Both A & C

**CHEMISTRY**

26. The correct chemical formula of Gypsum is
- A)  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
  - B)  $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$
  - C)  $\text{CaCO}_3 \cdot 2\text{H}_2\text{O}$
  - D)  $\text{CaOCl}_2$

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**SPACE FOR ROUGH WORK**

27. The molecular mass of sulphuric acid ( $\text{H}_2\text{SO}_4$ ) is  
A) 100                      B) 98                      C) 80                      D) 90
28. Cation is formed from a neutral atom by  
A) The gain of an electron                      B) The loss of an electron  
C) No change                      D) None of these
29. Atomicity of ozone is  
A) 4                      B) 3                      C) 2                      D) 1
30.  $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$  is called  
A) Oil of vitriol                      B) Blue vitriol  
C) Green vitriol                      D) Washing Soda
31. Nylon is a  
A) Natural fibre                      B) Semisynthetic fibre  
C) Variety of silk                      D) Synthetic fibre
32. *Philosomia ricin* worm produce  
A) Eri silk                      B) Tusser silk                      C) Mulberry silk                      D) Tram
33. Separation of hair of different textures is called.....  
A) Scouring                      B) Sorting                      C) Shearing                      D) Reeling
34. Cotton is used in the manufacture of  
A) Fish nets                      B) Coffee filters                      C) Book binding                      D) All the above
35. Crepe is a type of  
A) Silk                      B) Wool                      C) Cotton                      D) Fibre
36. The silk obtained from damage or waste cocoons is  
A) Crepe silk                      B) Tran silk                      C) Spun silk                      D) Eri silk

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**SPACE FOR ROUGH WORK**



37. .... composed of cellulose and lignin  
A) Jute fibre                      B) Cotton                      C) Wool                      D) Silk
38. Study of silk  
A) Sericulture                      B) Apiculture                      C) Silviculture                      D) Horticulture
39. Paheli wanted to buy a gift made of animal fibre obtained without killing the animal. Which of the following would be the right gift for her to buy?  
A) Wollen shawl                      B) Silk scarf  
C) Animal fur cap                      D) Lether jacket
40. Phenolphthalein is a synthetic indicator and its colours in acidic and basic solutions, respectively are  
A) Red and Blue                      B) Blue and red                      C) Pink and colourless                      D) Colourless and pink
41. The acid present in vinegar is  
A) Lactic acid                      B) Acetic acid  
C) Citric acid                      D) Sulphuric acid
42. 'Litmus' a natural dye is an extract of which of the following?  
A) China rose                      B) Beetroot  
C) Lichen                      D) Blueberries
43. Carbonic acid is a  
A) Monobasic acid                      B) Dibasic acid  
C) Tribasic acid                      D) Tetrabasic acid
44. Which of the following is a weak acid?  
A) HCl                      B)  $H_2SO_4$                       C)  $HNO_3$                       D)  $CH_3COOH$
45. Acid used in Car batteries  
A) Phosphoric acid                      B) Hydrochloric acid  
C) Nitric acid                      D) Sulphuric acid

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SPACE FOR ROUGH WORK

46. Products of 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
47. Calcium hydroxide is used  
A) To manufacture of soap  
B) In manufacture of bleaching powder  
C) To remove acidity from stomach  
D) Cleaning window panes
48. Caustic potash is  
A) NaOH  
B) KOH  
C)  $\text{NH}_4\text{OH}$   
D)  $\text{Ca}(\text{OH})_2$
49. 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
50. Which of the following is a chemical change?  
A) Twinkling of stars  
B) Cooking of vegetables  
C) Cutting of fruits  
D) Boiling of water

### **BIOLOGY**

51. Which among the following is not true regarding transpiration?  
A) Transpiration cools the plant  
B) It helps in the conduction of water and dissolved salt through xylem  
C) It helps in the conduction of food through phloem  
D) Water is lost in the form of vapour through stomata
52. Which of the following is not a component of phloem?  
A) Sieve tube  
B) Companion cells  
C) Tracheids  
D) Parenchyma

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**SPACE FOR ROUGH WORK**

53. Urine is excreted out of the body through  
A) Pelvis                      B) Ureter                      C) Urinary bladder                      D) Urethra
54. Average weight of kidney is about:  
A) 1.2 to 1.5 kg                      B) 1.2 to 1.7 kg                      C) 0.12 to 0.15 kg                      D) 0.12 to 0.17 kg
55. Scion is a term in relation to:  
A) Layering                      B) Cutting                      C) Grafting                      D) Micropropagation
56. Penicillin was discovered by:  
A) Waksman                      B) Dubois                      C) Robert Koch                      D) Flemming
57. The common nitrogen fixer in paddy fields is  
A) Azospirillum                      B) Scillatoria                      C) Frankia                      D) Rhizobium
58. India's rank in the world in production of mulberry silk is  
A) First                      B) Second                      C) Third                      D) Fourth
59. Honey is  
A) Acidic                      B) Neutral                      C) Alkaline                      D) Basic after some days
60. Number of bones present in arm is  
A) 30                      B) 32                      C) 35                      D) 40
61. Total number of bones in Axial skeleton  
A) 88                      B) 60                      C) 80                      D) 90
62. Immediate source of energy for muscle contraction is:  
A) Glucose                      B) GTP                      C) Creatine phosphate                      D) ATP
63. Viviparous organisms are the one's which  
A) produce eggs                      B) produce young ones  
C) Both A and B                      D) None of these
64. The cell formed after fertilization is called  
A) Foetus                      B) Zygote                      C) Embryo                      D) None of these

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**SPACE FOR ROUGH WORK**

65. In a flower, female reproductive part is  
 A) Ovary  
 B) Stigma  
 C) Ovary, Style and Stigma  
 D) Thalamus
66. The inner surface of small intestine has many finger like projections called:  
 A) Nephron  
 B) Ileum  
 C) Villi  
 D) Gall bladder
67. Function of bile is :  
 A) Emulsification of fat  
 B) Makes the medium alkaline  
 C) Both A and B  
 D) None of these
68. Digestion of starch starts from  
 A) Stomach  
 B) Intestine  
 C) Oesophagus  
 D) Mouth
69. Enzyme which breaks up starch into sugar is  
 A) Protease  
 B) Amylase  
 C) Lipase  
 D) Nuclease
70. Branchial respiration occurs in:  
 A) Human beings  
 B) Insects  
 C) Fishes  
 D) Reptiles
71. Anaerobic respiration is likely to occur in  
 A) Ants  
 B) Earthworms  
 C) Echinoderms  
 D) Tapeworms
72. Book lungs are the respiratory structures of  
 A) Arachnida  
 B) Mollusca  
 C) Mammals  
 D) Earthworm
73. Vocal cords occur in  
 A) Pharynx  
 B) Larynx  
 C) Glottis  
 D) Monocytes
74. Largest corpuscles of mammalian blood are:  
 A) Lymphocytes  
 B) Basophils  
 C) Erythrocytes  
 D) Monocytes
75. Increase in frequency of urination is :  
 A) Uremia  
 B) Proteinuria  
 C) Polyuria  
 D) Glycosuria

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**SPACE FOR ROUGH WORK**

**MATHEMATICS**

76. Which is equivalent fraction of the decimal 3.46
- A)  $\frac{346}{10}$                       B)  $\frac{346}{100}$                       C)  $\frac{346}{1000}$                       D)  $\frac{346}{10000}$
77. The value of  $\frac{0.011 \times 0.110}{0.0121} =$
- A) 0.01                      B) 0.1                      C) 10                      D) 121
78. A car runs 16 km using 1 litre of petrol. How much distance will it cover using  $2\frac{3}{4}$  litres of petrol
- A) 44 km                      B) 546 km                      C) 48 km                      D) 52 km
79.  $1.01 \times 1.1 \times 0.01 \times 1 = \dots\dots\dots$
- A) 0.01111                      B) 0.1111                      C) 0.01211                      D) 0.12121
80. By what rational number should  $\frac{-2}{9}$  be multiplied to obtain 5
- A)  $\frac{-15}{2}$                       B)  $\frac{-25}{2}$                       C)  $\frac{-45}{2}$                       D) -5
81. Which of the following statements is true
- A)  $\frac{-5}{12} < \frac{-2}{3} < \frac{-4}{9} < \frac{-7}{18}$                       B)  $\frac{-2}{3} < \frac{-4}{9} < \frac{-5}{12} < \frac{-7}{18}$
- C)  $\frac{-7}{18} < \frac{-5}{12} < \frac{-4}{9} < \frac{-2}{3}$                       D)  $\frac{-4}{9} < \frac{-7}{18} < \frac{-5}{12} < \frac{-2}{3}$
82. If  $\frac{x}{5} = \frac{-3}{45}$  then the value of x is
- A) -15                      B) 15                      C)  $-\frac{1}{3}$                       D) -3

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**SPACE FOR ROUGH WORK**

83. What should be subtracted from  $\frac{-3}{5}$  to get  $\frac{5}{9}$
- A)  $\frac{52}{45}$                       B)  $\frac{45}{52}$                       C)  $\frac{-52}{45}$                       D)  $\frac{-45}{52}$
84. If the mean of the numbers 6,4,3,8,10,11,10,10,5 and 'a' is 7.2 and median of the numbers 11, 10, b,8,6,10,a,4,3 and 10 is 8.5 then value of 'b' is
- A) 8                              B) 9                              C) 10                              D) 7
85. The mean of six numbers is 15. If 2 is taken away from every number, the new mean will be
- A) 13                              B) 4                              C) 17                              D) 8
86. If the mean of five observations x, x+2, x+4, x+6, x+8 is 11. Then the mean of first 3 observations is
- A) 9                              B) 7                              C) 11                              D) None of these
87. If the numbers 20, 22, 23, 25, (x+1), (x+3), 36, 38, 89 and 41 have median 30, then x is
- A) 28                              B) 29                              C) 30                              D) 32
88. What is the probability of choosing a vowel from the alphabet?
- A)  $\frac{5}{26}$                               B)  $\frac{4}{26}$                               C)  $\frac{5}{28}$                               D)  $\frac{8}{26}$
89. If a card is drawn from a well shuffled pack of 52 cards, then probability of getting a red face card is
- A)  $\frac{6}{53}$                               B)  $\frac{3}{26}$                               C)  $\frac{3}{21}$                               D)  $\frac{1}{52}$
90. Find the mode of the following data 1,1,2,4,3,2,1,2,2,4
- A) 1                              B) 2                              C) 3                              D) 4
91. If the median of the numbers x, x+1, x+2, x+3 which are arranged in ascending order is 3, find last term
- A)  $\frac{9}{2}$                               B)  $\frac{2}{9}$                               C)  $\frac{6}{9}$                               D)  $\frac{9}{5}$

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**SPACE FOR ROUGH WORK**



## FOUNDATION - CLASS IX (STUDYING VIII) - KEY

### PHYSICS

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

### CHEMISTRY

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

### BIOLOGY

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

### MATHEMATICS

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