



# ADMISSION CUM SCHOLARSHIP TEST

## SAMPLE TEST PAPER

(For Students going to Class 8 in 2018)

COURSE OFFERED: FIRST STEP (FS)

Time : 2 hours

Maximum Marks: 240

### INSTRUCTIONS

DONOT BREAK THE SEALS ON THIS BOOKLET, AWAIT INSTRUCTIONS FROM THE INVIGILATOR.

**(A) General :**

1. This Question paper contains **FIVE** Parts **A to E** (Physics, Chemistry, Mathematics, Biology & Mental Ability) containing **60** questions in all.
2. This Question Paper contains 12 pages, other than the OMR.
3. The Question Paper has blank spaces at the bottom of each page for rough work.No additional sheets will be provided for rough work.
4. Blank papers, clip boards, log tables, slide rule, calculators, cellular phones, pagers and electronic gadgets, in any form, are **NOT** allowed.
5. This booklet also contains the **OMR** answer sheet (i.e., A machine gradable Response Sheet).

**(B) Answering on the OMR:**

6. Each question will have **4 choices** in both the Sections, out of which **only one choice is correct**.
7. Darken the bubble with **Ball Pen (Blue or Black) ONLY**.

**(C) Filling – in Name and Registration No.**

8. On the **OMR sheet**, write your Name and Registration No. in ink. Also, put your signature in the appropriate box in ink.

**(D) Marking Scheme:**

9. (a) For each question, you will be awarded **4 marks** if you have darkened only one bubble corresponding to the right answer.
- (b) In case you have not darkened any bubble, you will be awarded 0 mark for that question.
- (c) In all other cases, you will be awarded **-1 mark**.

SEAL

Name : .....

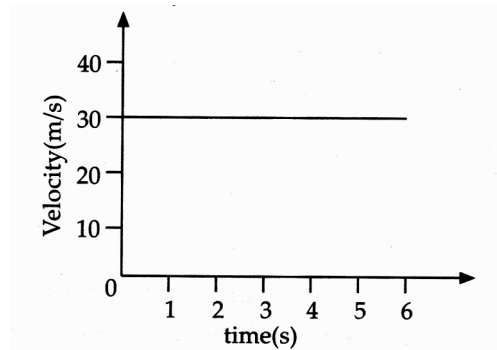
Registration No.:

**PART-A : PHYSICS**

1. Which one of the following scale has lower fixed point at  $0^{\circ}\text{C}$  ?  
(A) Kelvin scale      (B) Fahrenheit scale      (C) Celsius scale      (D) All of these
2. In solid substances, heat is transferred by  
(A) Conduction      (B) Convection      (C) Radiation      (D) (A) and (C)
3. Which of the following is used to measure the distance travelled by a moving vehicle?  
(A) Speedometer      (B) Kilometer      (C) Meter      (D) Odometer
4. Motion of Mars around the Sun is an example of  
(A) Rectilinear motion      (B) Oscillatory motion  
(C) Periodic motion      (D) Rotatory motion
5. In an electric circuit, the current starts from  
(A) the negative terminal of the battery.  
(B) the positive terminal of the battery.  
(C) either of the terminals of the battery.  
(D) none of the terminals of the battery.
6. The device used to prevent the flow of excess current in the circuit is  
(A) switch      (B) fuse      (C) bulb      (D) coil
7. Which of the following is a natural source of light ?  
(A) Electric lamp      (B) Electric filament      (C) Torch light      (D) Sunlight
8. Which of the following is not a luminous object?  
(A) Sun      (B) Moon      (C) Candle      (D) Bulb
9. Which of the following devices is used for the measurement of air pressure?  
(A) Barometer      (B) Thermometer  
(C) Potentiometer      (D) None of these

Space for rough work

10. The lower fixed point on the Celsius scale is
- (A) melting point of ice
  - (B) boiling point of water
  - (C) melting point of mercury
  - (D) mean of melting point and boiling point of water
11. Look at the graph given below carefully and find whether the body is in uniform acceleration?



- (A) Yes
  - (B) No
  - (C) The graph does not give the information that the body is in uniform acceleration
  - (D) None of these.
12. Light shows
- (A) curvilinear propagation
  - (B) rectilinear propagation
  - (C) random propagation
  - (D) none of these

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Space for rough work

**PART-B : CHEMISTRY**

13. Dissolve some common salt in water and the solution in an open and sunny place for a day. What do you observe?
- (A) The whole of the solution evaporates  
(B) Water evaporates leaving behind salt  
(C) Salt evaporates leaving behind water  
(D) No change of any form in the salt solution
14. Mark the incorrect statement.
- (A) A crystal is a solid in its pure form.  
(B) Galvanisation is zinc coating on iron.  
(C) Rusting is a chemical reversible change.  
(D) Reaction of iron and copper sulphate is a displacement reaction.
15. Identify the correct statement.
- (A) Rusting and burning are reversible changes  
(B) Physical change is always in irreversibile change  
(C) Oxygen gas turns limewater milky  
(D) Cutting of an apple is an irreversible chemical change
16. When added to acids, phenolphthalein
- (A) changes to pink (B) changes to green  
(C) remains colourless (D) changes to orange
17. Acids and bases should not be stored in metal containers because
- (A) they are corrosive in nature and react with metals.  
(B) they cannot be seen from outside.  
(C) they become brown in colour when stored in metal containers.  
(D) metal containers are heavy and cannot be lifted when filled with acids and bases.

Space for rough work

18. Calamine solution is applied on the area of ant bite. Calamine solution contains  
 (A) sodium carbonate (B) sodium hydrogencarbonate  
 (C) zinc carbonate (D) sodium chloride
19. Which of the following acids are not present in acid rain?  
 (A) Sulphuric acid (B) Nitric acid  
 (C) Carbonic acid (D) Hydrochloric acid
20. When the caterpillar is ready to enter the next stage of its life history called (i), it first weaves a net to hold itself. Then it swings its (ii) from side to side in the form of the figure of (iii). Select the correct words for above fill-ups.
- |                |             |              |
|----------------|-------------|--------------|
| <b>(i)</b>     | <b>(ii)</b> | <b>(iii)</b> |
| (A) Pupa       | Head        | Eight        |
| (B) Cocoon     | Head        | Seven        |
| (C) Pupa       | Tail        | Eight        |
| (D) Adult moth | Head        | Eight        |
21. Which of the following options shows the correct arrangement of layers of the soil?
- |             |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
|-------------|---|----------|---------|---------|-------------|-----|--|-------------|---------|---------|---------|-----|--|---------|---------|---------|-------------|-----|--|---------|---------|-------------|---------|
| (A)         | <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>Sub soil</td></tr> <tr><td>Topsoil</td></tr> <tr><td>Bedrock</td></tr> <tr><td>Parent rock</td></tr> </table> | Sub soil | Topsoil | Bedrock | Parent rock | (B) | <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>Parent rock</td></tr> <tr><td>Bedrock</td></tr> <tr><td>Topsoil</td></tr> <tr><td>Subsoil</td></tr> </table> | Parent rock | Bedrock | Topsoil | Subsoil | (C) | <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>Subsoil</td></tr> <tr><td>Bedrock</td></tr> <tr><td>Topsoil</td></tr> <tr><td>Parent rock</td></tr> </table> | Subsoil | Bedrock | Topsoil | Parent rock | (D) | <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>Topsoil</td></tr> <tr><td>Subsoil</td></tr> <tr><td>Parent rock</td></tr> <tr><td>Bedrock</td></tr> </table> | Topsoil | Subsoil | Parent rock | Bedrock |
| Sub soil    |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Topsoil     |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Bedrock     |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Parent rock |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Parent rock |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Bedrock     |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Topsoil     |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Subsoil     |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Subsoil     |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Bedrock     |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Topsoil     |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Parent rock |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Topsoil     |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Subsoil     |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Parent rock |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
| Bedrock     |   |          |         |         |             |     |  |             |         |         |         |     |  |         |         |         |             |     |  |         |         |             |         |
22. Lichens secrete acids and cause breakdown of rocks into smaller soil particles. This is an example of  
 (A) physical weathering (B) chemical weathering  
 (C) biological weathering (D) both (A) and (C).
23. Which of the following types of soil is most suitable for growth of paddy?  
 (A) Loamy soil (B) Sandy soil  
 (C) Silt soil (D) Clayey soil

Space for rough work

24. Earthworms are called farmer's friends because they
- (A) improve texture of the soil
  - (B) increase porosity of the soil
  - (C) form channels in the soil for roots to spread through
  - (D) all of these.

### PART-C : MATHEMATICS

25. use the sign in the box

$$(-8) + (-4) \square (-8) - (-4)$$

- (A) >                      (B) <                      (C)  $\leq$                       (D) =

26. Sahil wants to put a picture in a frame. The picture is  $7\frac{3}{5}$  cm wide. To fit in the frame the picture cannot be more than  $7\frac{3}{10}$  cm wide. How much should the picture be trimmed?.

- (A)  $\frac{3}{10}$  cm                      (B)  $\frac{3}{11}$  cm                      (C)  $\frac{5}{11}$  cm                      (D)  $\frac{6}{11}$  cm

27. Find 20% of Rs. 2500

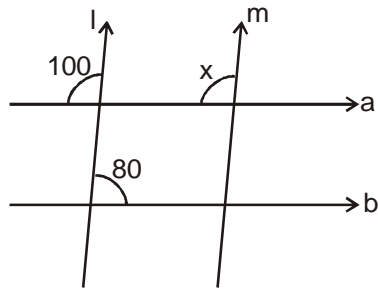
- (A) 400                      (B) 500                      (C) 600                      (D) 700

28. Find the value of x in  $-4(2 + x) = 8$

- (A) -4                      (B) 4                      (C) 5                      (D) -5

Space for rough work

29. Find the value of  $x$  in figure I || m

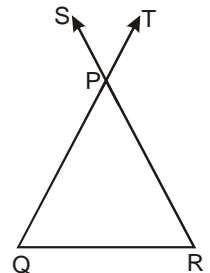


- (A)  $80^\circ$                       (B)  $100^\circ$                       (C)  $120^\circ$                       (D)  $70^\circ$
30. The following are the steps involved in finding the angles of the triangle ABC, when  $\angle A : \angle B : \angle C = 1 : 2 : 3$ . Arrange them in sequential order.

- (A) Let the angles be  $\angle A = x$ ,  $\angle B = 2x$  and  $\angle C = 3x$ .  
 (B) Given  $\angle A : \angle B : \angle C = 1 : 2 : 3$ .  
 (C)  $\angle A = 30^\circ$ ,  $\angle B = 2(30) = 60^\circ$  and  $\angle C = 3(30^\circ) = 90^\circ$   
 (D)  $\angle A + \angle B + \angle C = 180^\circ \Rightarrow x + 2x + 3x = 180^\circ$   
 (E)  $6x = 180^\circ \Rightarrow x = 30^\circ$

- (A) BADCE                      (B) DBAEC                      (C) BADEC                      (D) BACDE
31. In the figure below,  $\angle SPT = 60^\circ$  and  $PQ = PR$ . Find  $\angle PQR$

- (A)  $50^\circ$   
 (B)  $45^\circ$   
 (C)  $60^\circ$   
 (D)  $55^\circ$



Space for rough work

32. The measures of the sides of a  $\triangle PQR$  are integers in cm. If two of its sides are 1 cm each. Find the perimeter of the triangle.  
 (A) 3 cm (B) 4 cm (C) 5 cm (D) 6 cm
33.  $(25^2 - 15^2)^{\frac{3}{2}} = \underline{\hspace{2cm}}$   
 (A) 4000 (B) 8000 (C) 3125 (D) 1024
34. There are three angles. The second angle is one-third of the complement of the first angle. The third angle is half of the supplement of the first angle. The third angle is 6 times the second angle. Find the first angle.  
 (A)  $45^\circ$  (B)  $60^\circ$  (C)  $75^\circ$  (D)  $90^\circ$
35. Which of the following is the descending order of  $(4)^{26}$ ,  $(64)^9$  and  $(256)^7$  ?  
 (A)  $(64)^9$ ,  $(256)^7$ ,  $(4)^{26}$  (B)  $(4)^{26}$ ,  $(64)^9$ ,  $(256)^7$   
 (C)  $(256)^7$ ,  $(64)^9$ ,  $(4)^{26}$  (D) None of these
36.  $\left(\frac{a}{b}\right)^{x+y+z} \times \left[\left(\frac{\sqrt{a}}{\sqrt{b}}\right)^{-x} \times \left(\frac{\sqrt{a}}{\sqrt{b}}\right)^{-y} \times \left(\frac{\sqrt{a}}{\sqrt{b}}\right)^{-z}\right] = \underline{\hspace{2cm}}$ .  
 (A)  $[a^3 / b^3]^{x+y+z}$  (B)  $[a^2 / b^2]^{x+y+z}$  (C)  $[a / b]^{(x+y+z)/2}$  (D)  $[a / b]^{3(x+y+z)/2}$

### PART-D : BIOLOGY

37. Leaves of a plant can be destarched by  
 (A) Putting them in boiled alcohol  
 (B) Boiling them in water  
 (C) Placing the plant in a dark place for 2-3 days  
 (D) Exposing the plant to sunlight for 5-6 hours.

Space for rough work

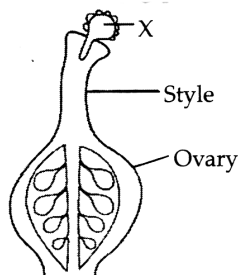


38. The complete digestion and absorption of food occurs in  
(A) Large intestine (B) Small intestine  
(C) Oesophagus (D) Stomach
39. Which of the following statements is not true?  
(A) Mode of taking food into the body varies in different organisms.  
(B) Bees and humming birds suck the nectar of flowers.  
(C) Hydra catches food with the help of its tentacles.  
(D) Lice and mosquitoes chew their food by grinding with teeth.
40. Streamlined body is one of the adaptations found in  
(A) Aquatic animals (B) Desert animals  
(C) Mountain animals (D) Rainforest animals.
41. Which of the following statements is not true?  
(A) The earth's weather is driven by the sun.  
(B) A meteorologist is a person who studies weather.  
(C) In weather reports, maximum and minimum temperatures are recorded everyday.  
(D) The land far away from the equator is hotter than the land near to it.
42. In muscle cells, the end product of anaerobic respiration is  
(A) Carbon dioxide (B) Lactic acid  
(C) Ethanol (D) Water
43. What happens when we breathe in?  
I. Size of our chest increases  
II. Size of our chest decreases  
III. Carbon dioxide is removed from our body  
IV. Air enters our lungs  
(A) I and III are correct (B) I and IV are correct  
(C) II and III are correct (D) II and IV are correct

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Space for rough work

44. The thinnest blood vessels in the human body are  
 (A) Arteries            (B) Veins            (C) Capillaries        (D) Any of these
45. Which of the following is an example of excretion?  
 (A) Removal of urine from the body  
 (B) Release of saliva from the salivary glands  
 (C) Release of Hcl from the stomach  
 (D) None of these
46. The given figure illustrates a stage during sexual reproduction in flowering plants.



What is structure X?

- (A) An ovule before pollination, but after fertilization.  
 (B) An ovule before fertilization, but after pollination.  
 (C) A pollen grain before pollination, but after fertilization.  
 (D) A pollen grain before fertilization, but after pollination.
47. If forests are disturbed  
 (A) Only human beings are affected            (B) Only animals are affected  
 (C) Only plants are affected            (D) All living organisms are affected.
48. Which of the following is not fit for drinking?  
 (A) Ground water            (B) Mineral water  
 (C) Sea water            (D) Water from well

Space for rough work

## PART-E : MENTAL ABILITY

Find the missing number :

49. 3, 5, 7, 9, 11, 13, 15, 17, ?

- (A) 14                      (B) 19                      (C) 15                      (D) 21

50. 2, 3, 5, 7, 11, ?, 17

- (A) 14                      (B) 13                      (C) 10                      (D) 12

51. A, C, ?, G, I

- (A) E                      (B) D                      (C) F                      (D) H

52. V, T, R, ?, N, ?

- (A) O, M                      (B) P, M                      (C) L, P                      (D) P, L

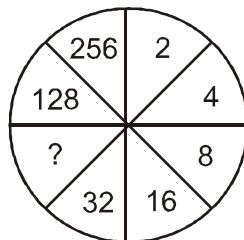
53. a \_ a b \_ b a \_ a \_ a b

- (A) babb                      (B) abba                      (C) baba                      (D) aabb

54. a \_ cab \_ a \_ c \_ b c

- (A) bbac                      (B) abab                      (C) abba                      (D) acba

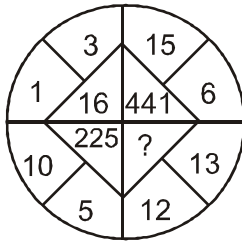
55.



- (A) 64                      (B) 36                      (C) 34                      (D) 60

Space for rough work

56.



- (A) 125                      (B) 25                      (C) 625                      (D) 156
57. What is the value of  $(48 - 12) \div 4 + 6 \div 2 \times 3 = ?$
- (A) 10                      (B) 0.6                      (C) 2                      (D) 18
58. What is the value of  $116 + 92 \div 46 - 28 \div 7 = ?$
- (A) 120                      (B) 116                      (C) 112                      (D) 114
59. If the alphabet series is written in a reverse order, which of the following will be the seventh letter to the left of eighth letter from your right ?
- (A) L                      (B) M                      (C) O                      (D) P
60. If the first four letters of the word 'ANTHROPOMORPHISM' are rewritten in the reverse order followed by the next four rewritten in the reverse order followed by the next four letters in the reverse order and so on, which letter will be twelfth from the left end in the rewritten order ?
- (A) O                      (B) H                      (C) M                      (D) P

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Space for rough work

## ANSWER - KEY

### PART-A : PHYSICS

- |        |        |        |         |         |         |
|--------|--------|--------|---------|---------|---------|
| 1. (C) | 2. (D) | 3. (D) | 4. (C)  | 5. (B)  | 6. (B)  |
| 7. (D) | 8. (B) | 9. (A) | 10. (A) | 11. (B) | 12. (B) |

### PART-B : CHEMISTRY

- |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|
| 13. (B) | 14. (C) | 15. (D) | 16. (C) | 17. (A) | 18. (C) |
| 19. (D) | 20. (B) | 21. (D) | 22. (C) | 23. (D) | 24. (D) |

### PART-C : MATHEMATICS

- |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|
| 25. (B) | 26. (A) | 27. (B) | 28. (A) | 29. (B) | 30. (C) |
| 31. (C) | 32. (A) | 33. (B) | 34. (B) | 35. (C) | 36. (C) |

### PART-D : BIOLOGY

- |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|
| 37. (C) | 38. (B) | 39. (D) | 40. (A) | 41. (D) | 42. (B) |
| 43. (B) | 44. (C) | 45. (A) | 46. (D) | 47. (D) | 48. (C) |

### PART-E : MENTAL ABILITY

- |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|
| 49. (B) | 50. (B) | 51. (A) | 52. (D) | 53. (A) | 54. (D) |
| 55. (A) | 56. (C) | 57. (D) | 58. (D) | 59. (C) | 60. (C) |