

## VIBRO'NET SCHOLARSHIP TEST

7<sup>th</sup> TO 8<sup>th</sup>  
MOVING



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 Centre 1: Shilpi Complex, Zadeshwar Road, Bharuch

 Centre 2: Silver Square Complex, Link Road, Bharuch

# GENERAL INSTRUCTION IN EXAMINATION HALL

**Time Allotted: 2 Hours**

**Maximum Marks: 300**

- Do not open this Test Booklet until you are asked to do so.
- Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

## **Important Instructions:**

1. Immediately fill in the particulars on this page of the Test Booklet with *Blue / Black Ball Point Pen*. *Use of pencil is strictly prohibited.*
2. The Answer Sheet is kept inside this Test Booklet. When you are directed to open the Test Booklet, take out the Answer Sheet and fill in the particulars carefully.
3. The test is of 2 **hours** duration.
4. The Test Booklet consists of 75 questions. The maximum marks are 300.
5. There are **FIVE** parts in the question paper consisting of **MENTAL ABILITY, PHYSICS, CHEMISTRY, BIOLOGY** and **MATHS** .
6. For each right answer you will be awarded **+ 4 marks** if you darken the bubble corresponding to the correct answer *and Zero marks* if no bubble is darkened or in case of bubbling of incorrect answer.
7. Use **Blue / Black Ball Point Pen only** for writing particulars / marking responses on the Answer Sheet. *Use of pencil is strictly prohibited.*
8. No candidate is allowed to carry any textual material, printed or written, bits of papers, pager, mobile phone, any electronic device, etc. except the Admit Card inside the examination hall / room.
9. On completion of the test, the candidate must hand over the Answer Sheet to the Invigilator on duty in the Room / Hall.
10. **Do not fold or make any stray marks on the Answer Sheet.**

**Name of the Candidate (in Capital Letters) :** \_\_\_\_\_

**Branch :** \_\_\_\_\_

**Batch :** \_\_\_\_\_ **Date of Examination :** \_\_\_\_\_

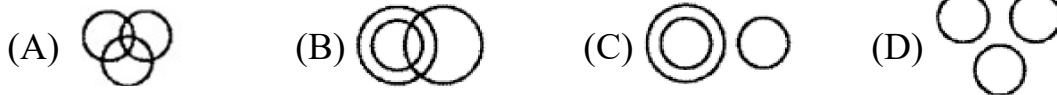
## SECTION : A (MENTAL ABILITY)

1. Which of the following options will complete the series ?  
3, 2, 11, 4, 35, 8, 107, 16, ?  
(A) 321                      (B) 323                      (C) 32                      (D) 120
  
2. Find the missing term in the following sequence.  
ACH, FAI, JYK, MWN, \_\_\_\_\_  
(A) PVS                      (B) OUR                      (C) PTQ                      (D) OTS
  
3. In a certain code, 'LINGER' is written as 123456 and 'FORCE' is written as 78695, then how is 'FIERCE' be written in that code?  
(A) 127569                      (B) 725695                      (C) 345677                      (D) 526789
  
4. B is the South-West of A. C is to the East of B and South-East of A and D is to the North of C in line with B and A. In which direction of A is D located ?  
(A) North-West                      (B) South-West                      (C) South-East                      (D) North-East
  
5. Rahul told Anand, "Yesterday I defeated the only brother of the daughter of my grandmother. "Whom did Rahul defeat ?  
(A) Son                      (B) Father                      (C) Brother                      (D) Father-in-law
  
6. If 'you' stands for '÷', 'are' stands for '+' and 'great' stands for '×', then what will be the value of '50 you 2 are 3 great 4' ?  
(A) 32                      (B) 37                      (C) 47                      (D) 73
  
7. Study the given arrangement and answer the question that follows :  
W - 2 S I \* N 1 L @ = B D 3 6 D H J 9 # 7 P K \$ V & 8 4 M  
If the symbols and numbers are interchanged serially as they appear in the arrangement such as - with 2, \* with 1, @ with 3 and so on, then which element will be the 17<sup>th</sup> element to the right of the 20<sup>th</sup> element from the right end in the new arrangement ?  
(A) 8                      (B) \$                      (C) 4                      (D) #

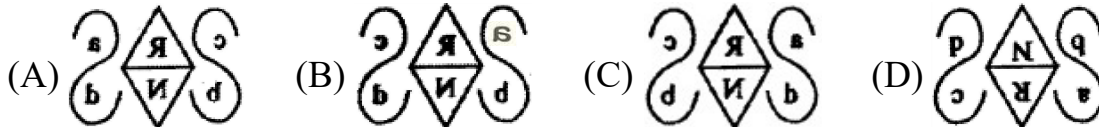
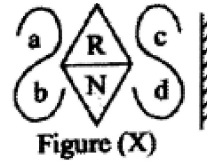


8. Six friends are sitting around a circle facing the centre. Varun is between Rahul and Ankit, Amit is between Latika and Garima, Rahul and Latika are opposite to each other. Garima is to the left of Amit. Who are the neighbours of Latika ?  
 (A) Rahul and Varun (B) Varun and Amit  
 (C) Amit and Ankit (D) Garima and Amit

9. Which of the following Venn diagrams depicts the relationship amongst, "Prism, Cuboid, Triangle" ?



10. Select the correct mirror image of Figure (X)

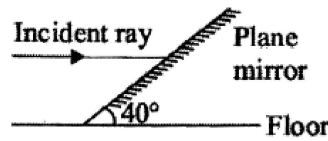


### SECTION : B (PHYSICS)

11. The path of the light is  
 (A) always a straight line (B) a curved line  
 (C) a zig-zag line (D) depends on the medium
12. White light is composed of  
 (A) seven colours (B) three colours (C) five colour (D) eight colours
13. In the game of basketball, the ball is bounced (with no spin) towards a player at an angle of 40 degrees to the normal. What will be the angle of reflection ?  
 (A) 30° (B) 45° (C) 60° (D) 40°

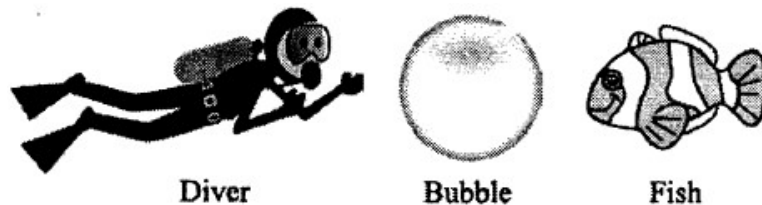


14. A ray of light parallel to the floor strikes a plane mirror, which is inclined at an angle  $40^\circ$  as shown in figure. What is the angle of reflection ?



- (A)  $40^\circ$                       (B)  $80^\circ$                       (C)  $50^\circ$                       (D)  $90^\circ$

15. A fish sees the face of a scuba diver through a thin bubble, as shown in figure. Compared to the face of the driver, the image seen by the fish will be



- (A) Smaller and erect                      (B) Smaller and inverted  
(C) Larger and erect                      (D) Cannot predict

16. What is the relation between distance and speed?

- (A) Distance = Speed  $\times$  Time                      (B) Distance = Speed/Time  
(C) Distance = Time/Speed                      (D) None of these

17. How will you convert the speed given in km/h to m/s?

- (A) By multiplying with  $5/16$                       (B) By multiplying with  $6/5$   
(C) By multiplying with  $18/5$                       (D) By multiplying with  $5/18$

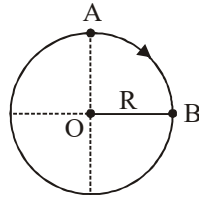
18. Which one records the distance travelled by a vehicle?

- (A) Speedometer    (B) Manometer                      (C) Motometer    (D) Odometer

19. Mohan takes 15 minutes to go from his home to school and 30 minutes for the return journey. If the distance between the school and the home is 4.5 km, what is his average velocity ?

- (A) 0                      (B)  $5 \text{ m s}^{-1}$                       (C)  $4 \text{ m s}^{-1}$                       (D)  $3 \text{ m s}^{-1}$

20. An object start moving in a circular path of radius R, from point A. The magnitude of displacement of the object, when it reaches point B is :



- (A)  $\pi R$                       (B)  $\sqrt{2} R$                       (C)  $\sqrt{2} \pi R$                       (D)  $\frac{\pi R}{2}$
21. Which one is filled in the bulb of a thermometer?  
 (A) Mercury              (B) Lead                      (C) Copper                      (D) Silver
22. Heat always flows  
 (A) from a colder object to a hotter object  
 (B) from a hotter object to a colder object  
 (C) in both the directions  
 (D) heat never flows from one object to other
23. Heat from the sun reaches to us by  
 (A) radiation              (B) conduction                      (C) convection                      (D) all of these
24. When you heat a system, its temperature \_\_\_\_\_  
 (A) Always increases  
 (B) Sometimes decreases  
 (C) May stay the same  
 (D) Always goes up or down, depending on the heat
25. The melting point of a substance is  $125^{\circ}\text{C}$ , and its boiling point is  $305^{\circ}\text{C}$ . At  $105^{\circ}\text{C}$ , the substance is in the \_\_\_\_\_.  
 (A) Solid state                      (B) Liquid state  
 (C) Gaseous state                      (D) Solid and liquid state

## SECTION : C (CHEMISTRY)

26. The acids which are obtained from the minerals present in earth, are called:  
 (A) Organic acids (B) Strong acids (C) Inorganic acids (D) Weak acids
27. A teacher performed the following experiment in the class.  
 He took a small amount of lemon juice, apple juice, vinegar in three separate test tubes. He poured a drop of blue litmus in each of the test tubes.  
 What will you notice about blue litmus?  
 (A) Blue litmus turns red only in lemon juice.  
 (B) Blue litmus turns red only in apple juice.  
 (C) Blue litmus turns red only in vinegar.  
 (D) Blue litmus turns red in all the three juices.
28. Which of the following is/are a monobasic acid?  
 (A)  $\text{H}_3\text{PO}_3$  (B)  $\text{H}_2\text{SO}_3$  (C) HCN (D)  $(\text{COOH})_2$
29.  $\text{A} + \text{B} \rightarrow \text{CO}_2$        $\text{CO}_2 + \text{C} \rightarrow \text{H}_2\text{CO}_3$   
 (A)  $\text{A} \rightarrow 2\text{C}$ ,  $\text{B} \rightarrow 2\text{O}_2$ ,  $\text{C} \rightarrow 2\text{H}_2\text{O}$       (B)  $\text{A} \rightarrow \text{C}$ ,  $\text{B} \rightarrow \text{O}_2$ ,  $\text{C} \rightarrow \text{H}_2\text{O}$   
 (C)  $\text{A} \rightarrow \text{C}$ ,  $\text{B} \rightarrow 2\text{O}_2$ ,  $\text{C} \rightarrow \text{H}_2\text{O}$       (D)  $\text{A} \rightarrow 2\text{C}$ ,  $\text{B} \rightarrow \text{O}_2$ ,  $\text{C} \rightarrow 2\text{H}_2\text{O}$
30. All properties of alkalis are due to the presence of the \_\_\_\_\_ formed on dissociation of the alkali in water  
 (A)  $\text{H}^+$  ions (B)  $\text{H}_2\text{O}^+$  ions (C)  $\text{H}^+$  ions (D)  $\text{OH}^-$  ions
31. The oxides of metals are commonly called \_\_\_\_\_ because they react with acids to form salt and water as only products.  
 (A) Salts (B) Non-metals (C) Basic oxides (D) Acidic oxides
32. Which of the following is correct statement?  
 (A) Methyl orange solution change its colour from yellow to pink in bases.  
 (B) Acids reacts with bases to form salt and water.  
 (C) Calcium oxide and calcium hydroxide are used for making artificial fibers such as rayon, nylon etc.  
 (D) Caustic soda is used as antacids.



33. The formula of zinc nitrate is:  
(A)  $\text{Zn}(\text{NO}_3)$       (B)  $\text{Zn}(\text{NO})_2$       (C)  $\text{Zn}(\text{NO})_3$       (D)  $\text{Zn}(\text{NO}_3)_2$
34. Beating aluminium to make a aluminium foil :  
(A) chemical change      (B) physical change  
(C) Both (A) and (B)      (D) None of these
35. Which of the following is an example of chemical change ?  
(i) Crystallisation of sugar from its solution      (ii) Making of ice cream  
(iii) Clotting of blood      (iv) Breaking of a glass pane  
(A) (i) and (ii) only      (B) (iii) only      (C) (ii) and (iii) only      (D) (i) to (iv) all
36. Sulphur burns in oxygen to form sulphur dioxide. The properties of sulphur dioxide are -  
(A) totally different from sulphur and oxygen      (B) similar to sulphur  
(C) similar to oxygen      (D) more similar to sulphur than oxygen
37. The process due to which an acid completely reacts with base to form salt and water as the only products is called \_\_\_\_\_.  
(A) Crystallisation      (B) Neutralisation      (C) Distillation      (D) Condensation
38. Which of the following is a normal salt?  
(A)  $\text{Na}_2\text{SO}_4$       (B)  $\text{NaHSO}_4$       (C)  $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$       (D)  $\text{Zn}(\text{OH})$
39. Which of the following bases is used in the manufacture of paper industry?  
(A) Caustic soda      (B) magnesium hydroxide  
(C) Calcium hydroxide      (D) Potassium hydroxide
40. Choose the false statements:  
(A)  $\text{Na}_2\text{O}$  is a common base      (B)  $\text{NaOH}$  is a common base  
(C)  $\text{CuO}$  is a common alkali      (D)  $\text{KOH}$  is a common alkali

**SECTION : D (BIOLOGY)**

41. Which one is an insectivorous plant?  
(A) Lichens (B) Venus fly trap (C) Mushrooms (D) Yeast
42. Which of the following is not an end product of photosynthesis?  
(A) Oxygen (B) Carbon dioxide (C) Water (D) Glucose
43. During photosynthesis  
(A) Light energy is converted into mechanical energy  
(B) Chemical energy is converted into light energy  
(C) Solar energy is converted into chemical energy  
(D) Chemical energy is converted into mechanical energy
44. Finger-like projections called villi are present in  
(A) Stomach (B) Large intestine (C) Small intestine (D) Liver
45. Organ that produces bile is .  
(A) pancreas (B) esophagus (C) liver (D) stomach
46. The vitamin essential for blood clotting is  
(A) Vitamin A (B) Vitamin D (C) Vitamin B (D) Vitamin K
47. The end products of aerobic respiration are  
(A) Nitrogen and water (B) Carbon dioxide and water  
(C) Ethyl alcohol and oxygen (D) None of the above
48. It breathes through gills  
(A) Fish (B) Frog (C) Earthworm (D) insects
49. In human lungs exchange of gases take place in:  
(A) Alveoli (B) Trachea (C) Nostril (D) None of these
50. Vascular tissues that transport water and nutrients in plants are called \_\_\_\_\_.  
(A) veins (B) phloem (C) xylem (D) root hairs
51. Which component of blood in mammals build up defence against harmful germs entering in the body :  
(A) RBCs (B) Plasma (C) Plateletes (D) WBCs

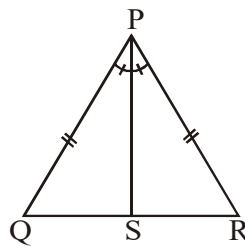
52. Water absorption through roots can be increased by keeping the plants :  
 (A) in the shade (B) in dim light  
 (C) sunlight (D) covered with polythene bag
53. Bacteria commonly reproduce by  
 (A) Binary fission (B) Fragmentation  
 (C) Spore formation (D) Budding
54. The male gametes are produced in  
 (A) Ovary (B) Style (C) Stigma (D) Anthers
55. The vegetative part of the plant is  
 (A) Root (B) Leaf (C) Flower (D) Both (A) & (B)

### SECTION : E (MATHEMATICS)

56. If a and b are two integer then which of the following may not be an integer?  
 (A)  $a + b$  (B)  $a - b$  (C)  $a \times b$  (D)  $a \div b$
57. The value of  $5 \div (-1)$  does not lie between  
 (A) 0 and  $-10$  (B) 0 and 10 (C)  $-4$  and  $-15$  (D)  $-6$  and 6
58. Which of the following statement is true?  
 (A)  $24/13 = 16/9$  (B)  $24/13 < 16/9$  (C)  $24/13 > 16/9$  (D) none of these
59. Match the following groups.
- |  |  |
|--|--|
| <p><u>Group - A</u></p> <p>(a) Space<br/>                 (b) Plane<br/>                 (c) Intersecting line<br/>                 (d) Collinear points</p> <p>(A) a – (ii), b – (i), c – (iii), d – (iv)<br/>                 (C) a – (iii), b – (iv), c – (ii), d – (i)</p> | <p><u>Group - B</u></p> <p>(i) Same line<br/>                 (ii) One point<br/>                 (iii) Lines, planes<br/>                 (iv) Flat surface</p> <p>(B) a – (i), b – (ii), c – (iii), d – (iv)<br/>                 (D) a – (iv), b – (iii), c – (i), d – (ii)</p> |
|--|--|
60. If  $\overline{AB} = 512$  cm and  $\overline{CD} = 4723$  mm, then  $\overline{AB} + \overline{CD}$  in metres is  
 (A) 9.843 metres (B) 9.483 metres  
 (C) 9.384 metres (D) 9.834 metres

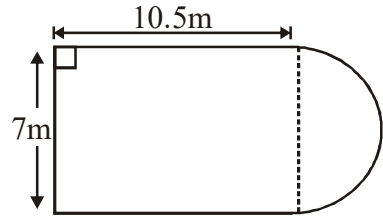


61. If in a triangle, one angle is thrice the smallest angle and it is also greater than third angle by  $23^\circ$ , then greatest angle of the triangle is:  
 (A)  $64^\circ$  (B)  $81^\circ$  (C)  $87^\circ$  (D)  $92^\circ$
62. If one angle of a triangle is equal to half the sum of the other two equal angles, then the triangle is :  
 (A) Equilateral Triangle (B) Isosceles Triangle  
 (C) Right-angled Triangle (D) Isosceles Right-angled Triangle
63. In the given figure, if PS is the bisector of  $\angle P$  and  $PQ = PR$ , then  $\triangle PQS$  and  $\triangle PRS$  are congruent by the criterion

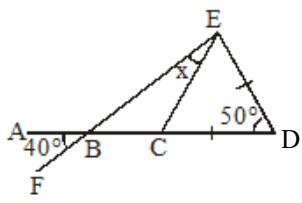


- (A) AAA (B) SAS (C) ASA (D) Both (B) and (C)
64. The numerator of a fraction is 4 less than the denominator. If 1 is added to both its numerator and denominator, it becomes  $\frac{1}{2}$ . Find the fraction.  
 (A)  $\frac{7}{3}$  (B)  $\frac{2}{7}$  (C)  $\frac{7}{2}$  (D)  $\frac{3}{7}$
65. If  $45 - [28 - \{37 - (15 - x)\}] = 58$ , then x is equal to  
 (A) -19 (B) 19 (C) 29 (D) -29
66. In an isosceles triangle, the base angles are equal. The vertex angle is  $40^\circ$ , then the base angle is  
 (A)  $40^\circ$  (B)  $70^\circ$  (C)  $80^\circ$  (D)  $90^\circ$
67. The ratio of the ages of two boys is 3 : 4. After 3 years, the ratio will be 4 : 5. The ratio of their ages after 21 years will be  
 (A) 14 : 17 (B) 17 : 19 (C) 11 : 12 (D) 10 : 11

68. In an examination there were 640 boys and 360 girls. 60% of the boys and 80% of the girls were successful. The percentage of failures was :  
 (A) 20%                      (B) 60%                      (C) 30.5%                      (D) 32.8%
69. x, y and z are three sums of money such that y is the simple interest on x and z is the simple interest on y for the same time and rate. Which one of the following is correct?  
 (A)  $x^2 = yz$                       (B)  $y^2 = zx$                       (C)  $z^2 = xy$                       (D)  $xyz = 1$
70. Smita has a garden which is in the shape of the given figure. What is the perimeter of the garden?

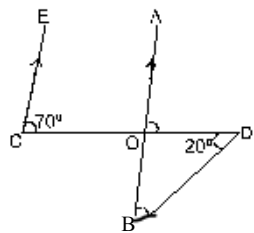


- (A) 57 m                      (B) 39 m                      (C) 50 m                      (D) 64 m
71. The flour in a bag is divided into three portions according to the ratio of 4 : 6 : 9. If the smallest portion is 28 kg, how much is the biggest portion?  
 (A) 54 kg                      (B) 63 kg                      (C) 72 kg                      (D) 98 kg
72. Subtract  $(a^2 + b^2 - 2ab)$  from  $(a^2 + b^2 + 2ab)$   
 (A)  $-4ab$                       (B)  $-2ab$                       (C)  $4ab$                       (D)  $2ab$
73. Simplify the following expression  $x(y - z) - y(z - x) - z(x - y)$   
 (A)  $2x(y - z)$                       (B)  $2y(z - x)$   
 (C)  $2x(z - y)$                       (D) None of these
74. In the figure given below, ABCD is a straight line. Find x.



- (A)  $25^\circ$                       (B)  $35^\circ$   
 (C)  $45^\circ$                       (D)  $55^\circ$

75. In the given figure, if  $EC \parallel AB$   $\angle ECD = 70^\circ$  and  $\angle BDO = 20^\circ$ , then  $\angle OBD$  is :



- (A)  $20^\circ$                       (B)  $50^\circ$   
 (C)  $60^\circ$                       (D)  $70^\circ$

# JEE ADVANCED RESULTS



**Dhyey**

**IIT Guwahati**  
(Computer Science)



**Danish**

**IIT Roorkee**



**Prasam**

**IIT Kharagpur**



**Akanksha**

**IIT Kanpur**



**Smit Shah**

**IIT Mandi**



**Dhyani**

**IIT Guwahati**



**Rishabh**

**IIIT Allahabad**

# NEET RESULTS



**SHACHI THAKKAR**  
GOVT. MEDICAL  
COLLEGE SURAT



**PURVA SAKARIYA**  
GOVT. MEDICAL  
COLLEGE SURAT



**KHUSHI THAKKAR**  
GOVT. MEDICAL  
COLLEGE VADODARA



**PRANJAL PATEL**  
GOVT. MEDICAL  
COLLEGE VADODARA



**KHUSHI PATEL**  
GOVT. MEDICAL  
COLLEGE VADODARA



**SHIVANI MITHAIWALA**  
GOVT. MEDICAL  
COLLEGE VADODARA



**SHRUTI PATEL**  
GOVT. MEDICAL  
COLLEGE VADODARA



**MUBASSIRA**  
GOVT. MEDICAL  
COLLEGE SURAT



**DIYA DARJI**  
GOVT. MEDICAL  
COLLEGE SURAT



**MANSI MODY**  
GOVT. MEDICAL COLLEGE  
JAMNAGAR



**TITHI RANA**  
GMC BHAVNAGAR



**NANCY CHAUBEY**  
GMERS VALSAD



**MAZZ**  
GMERS VALSAD



**BHARGAV**  
BJ MEDICAL  
AHMEDABAD



**NAISARGI**  
BJ MEDICAL  
AHMEDABAD



## Our Students, Our Pride



**JEE**  
ADVANCED  
2022

**Dhyey Patel**

All India  
Rank

**494**

• All india Rank 1  
in Physics.

**DIST. TOPPER**



**NEET**  
SCORE 2022

**Shachi Thakkar**

Total

**630**

out of 720

Physics - 98.35pr  
Chemistry - 99.75pr  
Biology - 98.85pr  
**Total - 99.45pr**