

MENTORS EDUSERV TALENT REWARD EXAM (METRE) SAMPLE TEST PAPER

[For Students presently in Class 6 going to Class 7 in 2022]

Time : 2 hours

Maximum Marks: 225

INSTRUCTIONS

[A] General

1. This Question paper contains **FIVE** Parts, **A to E** (Physics, Chemistry, Mathematics, Biology & Mental Ability).
2. This Question Paper contains **15 pages** including cover page.
3. This question paper contains total **75 questions** (**15** questions each in Physics, Chemistry, Mathematics, Biology and Mental Ability).
4. The Question Paper has blank spaces at the bottom of each page for rough work. No additional sheets will be provided for rough work.
5. Blank papers, clip boards, log tables, slide rule, calculators, cellular phones, pagers and electronic gadgets, in any form, are **NOT** allowed.
6. The **OMR** (Optical Mark Recognition) sheet shall be provided separately.

[B] Answering on the OMR

7. In all the parts, each question will have **4 choices** out of which **only one choice is correct**.
8. Darken the bubble with **Ball Pen (Blue or Black) ONLY**.

[C] Filling OMR

9. On the **OMR sheet**, fill all the details properly and completely, otherwise your OMR will not be checked.
10. Do not write anything or tamper the barcode in the registration no. box.

[D] Marking Scheme:

11. For each question you will be awarded **3 marks** if you darken the bubble corresponding to the correct answer **ONLY** and **zero (0) marks** if no bubble is darkened. In all other cases, **minus one (-1) mark** will be awarded.

Name :

Registration No.:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

SEAL

PART-A : PHYSICS

- [Q.1] Krish conducted an experiment with shadow sticks. The pictures below were drawn from his observations of the Sun's movement across the sky. Which picture shows the time of the day when the Sun was highest in the sky?



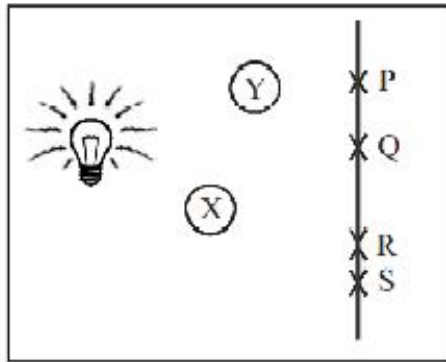
- [Q.2] One side of a square chessboard is 24 inches long. The length of its other side is equal to
[A] 1 foot [B] 2 feet [C] 12 feet [D] 24 feet
- [Q.3] Ten coins were stacked one above the other. Their total height was 4 cm and 6 mm. The thickness of each coin is
[A] 4.0 mm [B] 4.5 mm [C] 4.6 mm [D] 46 mm
- [Q.4] **Statement-A** : Rotation of earth on its axis is a periodic motion but it is not a rotatory motion.
Statement-B : Motion of an engine piston is a translatory motion.
[A] Statement A is correct but statement B is incorrect
[B] Statement A is incorrect but statement B is correct
[C] Both the statements are correct
[D] Both the statements are incorrect
- [Q.5] The play ground swing shown below is a type of pendulum.



Choose the option from below which exhibits same type of motion as by the girl in the picture.

- [A] A fan rotating at constant speed. [B] The needle end of a sewing machine.
[C] A ball thrown upwards in air. [D] A cyclist moving in a straight line.

[Q.6] The diagram below shows a light bulb, two objects X and Y and a screen.



On which point P, Q, R or S on the screen does shadow not fall on ?

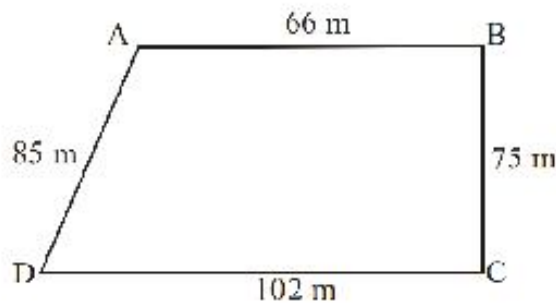
- [A] P [B] Q [C] R [D] S

[Q.7] Match the following.

- | | |
|--------------------------|--|
| A. Translucent substance | (a) Give out its own light |
| B. Opaque object | (b) Through which light can pass partially |
| C. Reflection | (c) Shadow cast by heavenly bodies |
| D. Luminous object | (d) Bouncing back of light in same medium |
| E. Eclipse | (e) Through which light cannot pass |

- [A] A-a, B-d, C-e, D-b, E-c [B] A-b, B-e, C-d, D-a, E-c
 [C] A-b, B-d, C-e, D-a, E-c [D] A-a, B-e, C-d, D-b, E-c

[Q.8] Rahul walks around a park every day. How much distance does he cover in 10 rounds ?

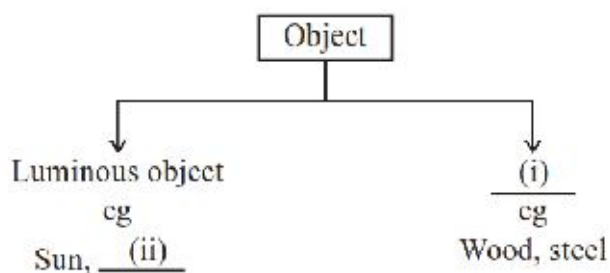


- [A] 3280 km [B] 3.280 km [C] 328 m [D] 32800 m

[Q.9] Which of the following is 'NOT' a periodic motion?

- [A] A swinging pendulum [B] Hands of clock
 [C] Rotation of earth [D] A flying kite

[Q.10] Study the flowchart carefully and fill in the blanks.



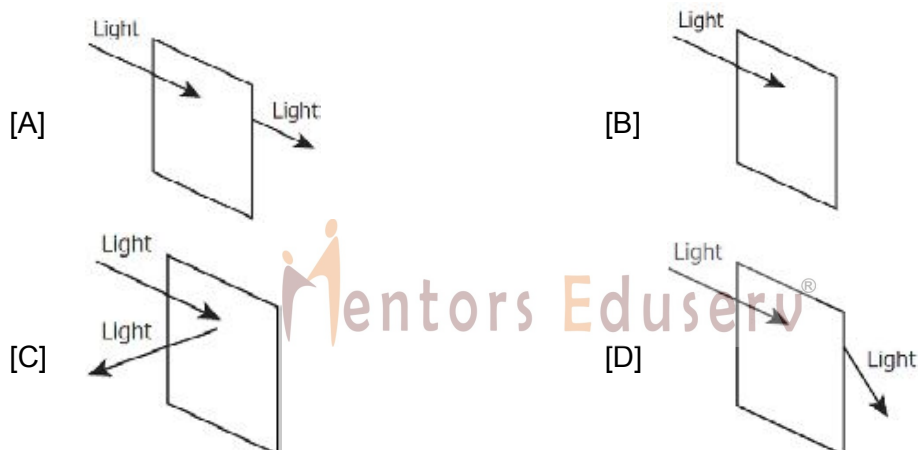
(i)

- [A] Bulb
[B] Non-Luminous object
[C] Non-Luminous object
[D] Bulb

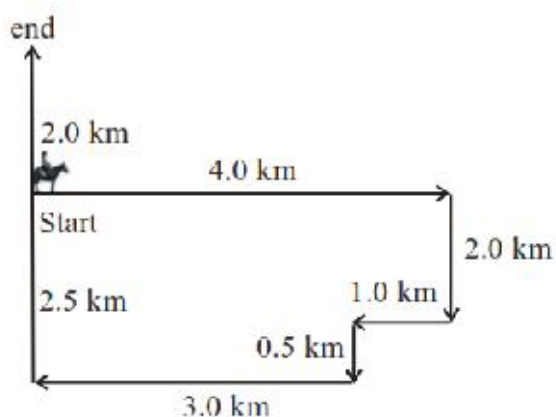
(ii)

- Non-luminous object
Rubber
Tube light
Luminous object

[Q.11] Which of these correctly shows how light acts when it hits a mirror?



[Q.12] A rancher surveyed his property to make sure there were no breaks in his fence. He rode his horse around his entire property and then ended at home, as shown in the figure below.



How much total distance he covered ?

- [A] 10 km [B] 12 km [C] 14 km [D] 15 km

[Q.13] The distance between Delhi and Mumbai is usually expressed in units of

- [A] Decimetre [B] Metre [C] Centimetre [D] Kilometre

[Q.14] Four students push carts filled with sports equipment across the gym. Each student pushes with the same amount of force. Which cart has the greatest change in speed?



12 tennis rackets
 $m = 10 \text{ kg}$



15 sports balls
 $m = 15 \text{ kg}$



18 exercise mats
 $m = 20 \text{ kg}$



28 pieces of rope
 $m = 25 \text{ kg}$

[Q.15] How far will a person walk at a constant speed of 5 ft/s in 60 seconds in a straight line ?

- [A] 200 yards [B] 12 yards [C] 100 yards [D] 300 yards

PART-B : CHEMISTRY

[Q.16] Muslin cloth is used for :

- [A] Filtration [B] Sedimentation [C] Decantation [D] Condensation

[Q.17] If a cold steel plate is held in the steam, water droplets can be seen on the plate. This change is called

- [A] Evaporation [B] Boiling [C] Melting [D] Condensation

[Q.18] When ammonium chloride is heated it turns directly into the vapour state. This process is called

- [A] sublimation [B] condensation [C] melting [D] freezing

[Q.19] Which of the following is not a gaseous state of matter ?

- [A] Smoke [B] Rain [C] Water vapour [D] Air

[Q.20] Identify the material 'P' from the information given below.

P
<ul style="list-style-type: none">• Can be recycled• Bio-degradable• Non-toxic and useful

[A] Paper [B] Glass bottle [C] Metal can [D] Plastic

[Q.21] What is the name of process which involves twisting of strands of fibres ?

[A] Ginning [B] Weaving [C] Retting [D] Spinning

[Q.22] The spinner in washing machine dries clothes, works on the principle of

[A] Sedimentation [B] Evaporation
[C] Centrifugation [D] Crystallization

[Q.23] Which fabric has dull surface ?

[A] Nylon [B] Silk [C] Jute [D] Rayon

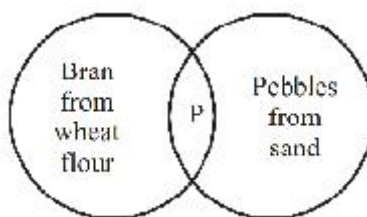
[Q.24] Which of the following fibres is used in the production of ropes, canvas, clothes and paper ?

[A] Cotton [B] Coir [C] Silk [D] Hemp

[Q.25] Intermolecular spaces are _____ in gases and _____ in solids.

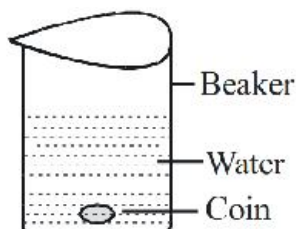
[A] Smaller, Larger [B] Smaller, Smaller
[C] Larger, Smaller [D] Larger, Larger

[Q.26] Identify P in the given venn diagram.

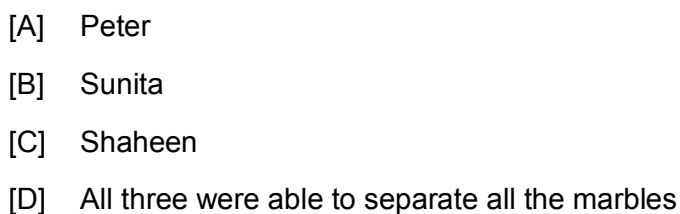


[A] Filtration [B] Winnowing [C] Sieving [D] Threshing

[Q.27] Annu took a glass beaker and filled it with clean water. She put a silver coin in it and looked the coin from the top of the beaker. What would be her observation ?



- [Q.30]** Shaheen has a mixture of marbles of three different sizes. She and her friends wanted to separate this mixture using any two of the three sieves shown.



PART-C : MATHEMATICS

[Q.31] $4\frac{7}{8} = ?$

- [A] 4.78 [B] 4.87 [C] 4.875 [D] None of these

[Q.32] With the angles given below, in which case the construction of triangle is possible?

- [A] $30^\circ, 60^\circ, 70^\circ$ [B] $50^\circ, 70^\circ, 60^\circ$ [C] $40^\circ, 80^\circ, 65^\circ$ [D] $72^\circ, 28^\circ, 90^\circ$

[Q.33] What do you mean by a regular quadrilateral?

- [A] A rectangle [B] A rhombus [C] A square [D] A trapezium

[Q.34] Which of the following is incorrect.

- [A] 4,02,81,008 Four crore two lakh eighty one thousand eight.
[B] 83,07,80,120 Eighty three crore seven lakh eighty thousand one hundred twenty.
[C] face value of 9 in 9,74,214 is 9 lakh.
[D] 648340021 is written with commas as (International system) 648,340,021.

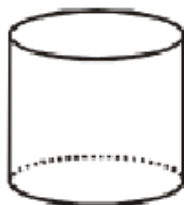
[Q.35] The difference of the smallest five digit number and the greatest five digit number formed by using 2, 1, 5, 7, 0 only (Digits should not be repeated) is

- [A] 73953 [B] 65053 [C] 64953 [D] 65953

[Q.36] A curve which begins and ends at the same point is called a _____

- [A] closed curve [B] open curve [C] normal curve [D] definite curve

[Q.37] Which of the following characteristics describes the geometric figure below?



- [A] 2 faces and 2 vertices [B] 1 rectangular base and 2 vertices
[C] 2 circular bases and 0 vertices [D] 6 faces and 8 vertices

[Q.38] How many lines of symmetry does the figure below have?



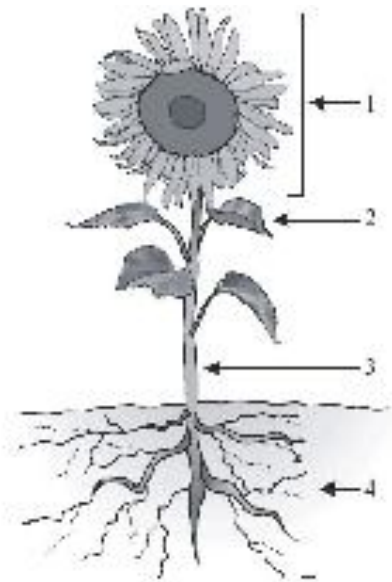
- [A] 0 [B] 2 [C] 4 [D] 8

- [Q.39] The sum of two integers is -20 . If one of them is 20 then the other is
[A] -20 [B] 20 [C] 0 [D] -40
- [Q.40] Which of the following fractions lies between $\frac{2}{3}$ and $\frac{5}{7}$?
[A] $\frac{3}{4}$ [B] $\frac{4}{5}$ [C] $\frac{5}{6}$ [D] None of these
- [Q.41] Vimal is $\frac{1}{4}$ m shorter than Ashok. If Vimal is $1\frac{3}{8}$ m tall, how tall is Ashok ?
[A] 1.125 m [B] 1.166 m [C] 1.25 m [D] 1.625 m
- [Q.42] Find the weight of 25 packets of biscuits, if each packet weighs $2\frac{4}{5}$ kg.
[A] 80 kg [B] 70 kg [C] 90 kg [D] 75 kg
- [Q.43] Forty crores four thousand in numeral form is equal to
[A] 404000 [B] 400004000 [C] 4004000 [D] 40004000
- [Q.44] The difference between the place value of 6 in the number 26,28,162 is
[A] 589940 [B] 599940 [C] 0 [D] None of these
- [Q.45] If $\frac{144}{0.144} = \frac{14.4}{x}$, then the value of x is
[A] 0.0144 [B] 1.44 [C] 14.4 [D] 144

PART-D : BIOLOGY

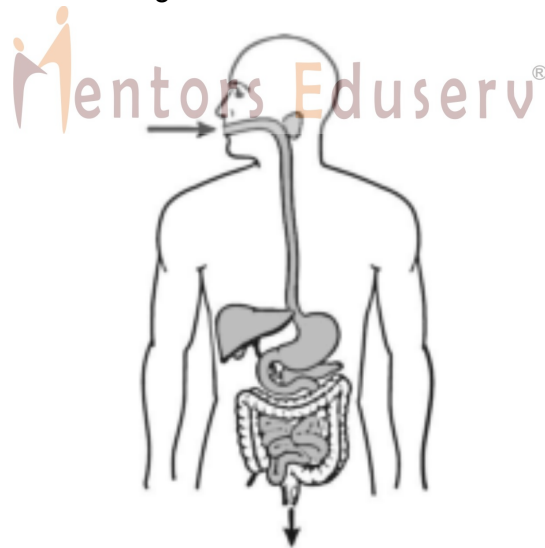
- [Q.46] The most common and simple carbohydrate is
[A] Amino acid [B] Phospholipid
[C] Maltose [D] Glucose
- [Q.47] A cactus is an example of
[A] a biotic element found in a desert
[B] an abiotic element found in a desert
[C] a biotic element found in a rain forest
[D] an abiotic element found in a rain forest

- [Q.48] Four parts of a sunflower plant are identified by numbers in the picture below. Which numbered part of the sunflower plant is mainly responsible for reproduction?



- [A] Part 1 [B] Part 2 [C] Part 3 [D] Part 4

- [Q.49] The diagram below shows organs that enable humans to eat food and eliminate waste. Which system is represented in the diagram?



- [A] Circulatory [B] Endocrine [C] Digestive [D] Nervous

- [Q.50] Cotton fibres contain the largest amount of

- [A] Starch [B] Fats [C] Cellulose [D] Keratin

- [Q.51] Which food items do you suggest to include in the diet of a person suffering from bleeding of gums?

- [A] Amla [B] Guava [C] Both 1 and 2 [D] Milk

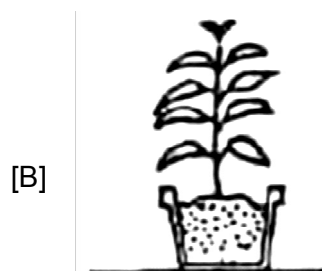
[Q.52] From which parts of the plant Cotton and Jute are obtained ?

- [A] Both from stem
- [B] Cotton from fruit and Jute from roots
- [C] Both from roots
- [D] Cotton from fruit and Jute from stem

[Q.53] In which of these conditions, the potted plant would be able to carry out the process of making food ?



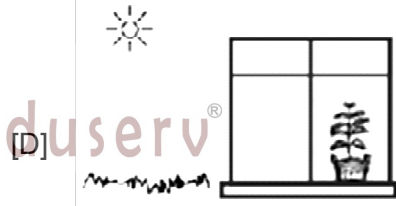
**Placed in
fully enclosed
wooden cupboard**



Dry soil in the pot



**All the leaves
are smeared
with vaseline**



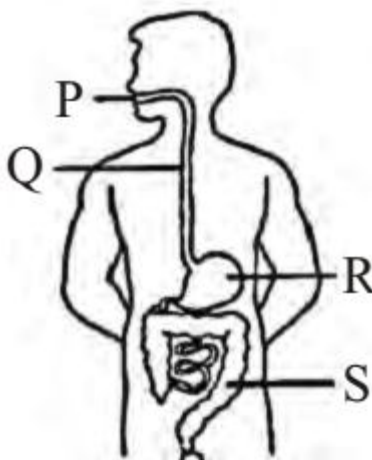
**Placed near
an open window
and well watered**

[Q.54] The food items shown in the figure are rich in nutrient X.
Read the given statements regarding the nutrient X.



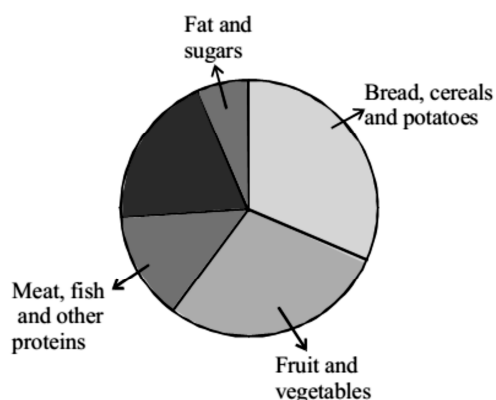
- (i) When we grow, our body needs X to make new cells.
 - (ii) X is also needed to replace old and damaged cells. Identify 'X'.
- [A] Fats
 - [B] Proteins
 - [C] Carbohydrates
 - [D] Minerals

- [Q.55] The given figure shows human digestive system with some parts labelled as P, Q, R and S. Which of the following labelled parts is correctly matched with its function?



- [A] Q - Food is mixed with digestive juices
[B] P - Digestion starts here
[C] R - Most of the water is absorbed here
[D] S - Digestion of food is completed here
- [Q.56] Which of the following lists of food is obtained from roots of the plant?
- [A] Spinach, cabbage, coriander [B] Potato, mango, broccoli
[C] Sugarcane, onion, beetroot [D] Radish, turnip, carrot
- [Q.57] As seen in the pie chart bread, cereals and potatoes occupy the maximum portion of a balanced diet.

These food items are a source of



- [A] carbohydrates [B] proteins
[C] fats [D] minerals

[Q.58] Read the following four lines of a given poem.

*Green plants are busy factories
that keep us alive.
Without them we would have no meat,
No honey from the hive*

What does the poem tell us?

- (i) Green plants produce food. (ii) Animals are dependent on plants.
(iii) Plants are depended on animals for food. (iv) Animals and people need plants.

Choose the correct combination of answers.

- [A] (i), (iii) and (iv) [B] (i) , (ii) and (iv)
[C] (ii), (iii) and (iv) [D] (i) , (ii) and (iii)

[Q.59] Match the List-I with List-II and choose the correct option.

List-I

- A. We should keep the eatables
B. Our kidneys
C. Immune system of our body
D. Malaria is caused by

List-II

1. clean our blood.
2. fights against the diseases.
3. mosquito biting.
4. covered.

Codes:

	A	B	C	D		A	B	C	D
[A]	1	2	3	4	[B]	2	3	1	4
[C]	4	1	2	3	[D]	4	3	2	1

[Q.60] If left on a table in a room, which of the following four food items is most likely to remain without getting spoilt for the longest time ?



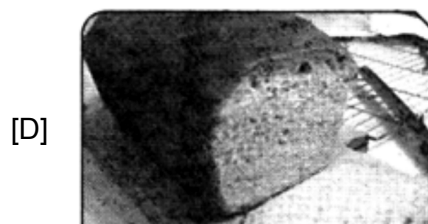
Boiled potato



Raw rice



Apple



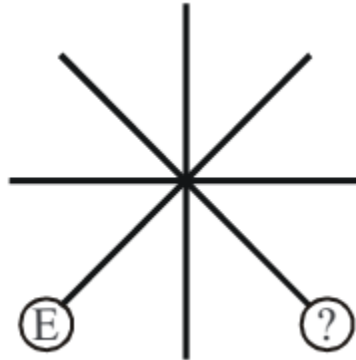
Bread

PART-E : MENTAL ABILITY

[Q.61] Choose one word out of a given alternatives, which cannot be formed from the letters of the word CONSTRUCTION

- [A] SUCTION [B] COINS [C] CAUTION [D] NOTION

[Q.62] Find the directions which replaces '?' in the figure ?



- [A] N [B] NE [C] S [D] SE

[Q.63] Four friends A, B, C and D live in a same locality. The house of B is in the east of A's house but in the north of C's house. The house of C is in the west of D's house. D's house is in which direction of A's house?

- [A] South-East [B] North-East [C] East [D] Data is inadequate

[Q.64] How many letters are there in the word 'CREATIVE' which have as many letters between them in the word as in the English Alphabets ?

- [A] 1 [B] 2 [C] 3 [D] 4

[Q.65] In a certain code 'MONKEY' is written as OMNKYE, how is 'TIGERS' written in that code ?

- [A] IGRTES [B] SERTIG [C] GITRES [D] ITGESR

[Q.66] Find the wrong term.

1, 2, 6, 15, 31, 56, 91

- [A] 2 [B] 6 [C] 31 [D] 91

[Q.67] Complete the following Pattern in the series

a _ _ a _ b _ b _ ab _ _ bb

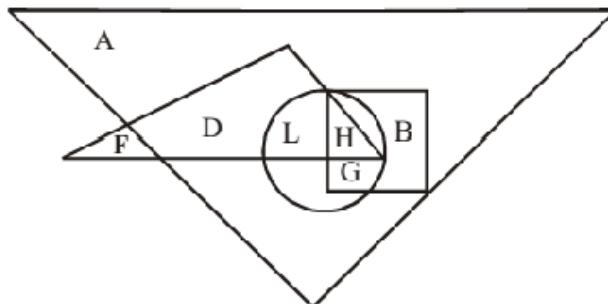
- [A] bbbabba [B] bbbbbbb [C] bababab [D] abbabba

[Q.68] Find missing term (?).

J2Z, K4X, I7V, ?, H16R, M22P

- [A] L11T [B] L11S [C] L12T [D] L12S

[Q.69] Study the figure carefully and answer the given question.



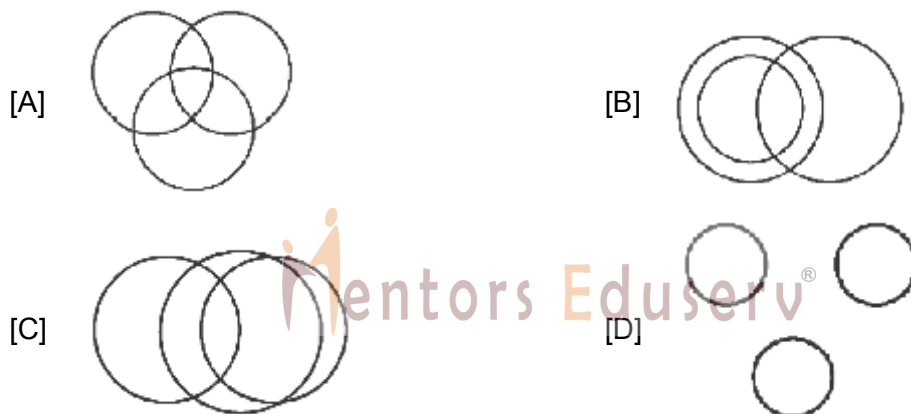
Here, big triangle represent artists, small triangle represents scientists, square represents dancers and circle represents doctors.

Which letter represents the artists who are doctors and dancers only ?

- [A] A [B] D [C] G [D] H

[Q.70] Which of the following is the logical venn diagram of the given pair of words ?

Doctor, Male, Father.



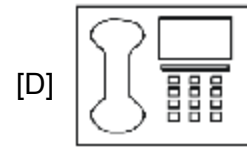
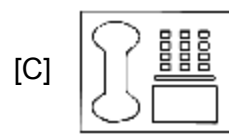
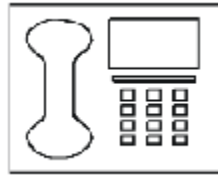
[Q.71] Choose the correct water image from the alternatives (A), (B), (C) & (D)
CALIBRE

- [A] CΛTIBKE [B] CALIBKE
[C] CΛTIBRE [D] CΛLIBKE

[Q.72] Choose the correct water image from the alternatives (A), (B), (C) and (D) of the figure (A).



[Q.73] Choose the correct mirror image from the alternatives (A), (B), (C) & (D)



[Q.74] Study the following letters and their corresponding digit codes followed by certain conditions of coding and answer the question given below them by finding out which of the digit combinations given in (A), (B), (C) and (D) is the coded form of the letter-groups given in the question and mark your answer accordingly.

Letter	P	N	A	J	I	R	E	B	U	K
Digit Code	5	3	9	1	4	6	2	7	0	8

Conditions:

[A] If both the first and the last letters in the group are vowels, both should be coded as \$.

[B] If both the first and the last letters in the group are consonants, both should be coded as #.

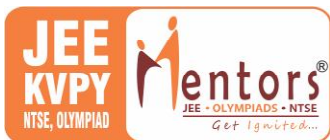
PRANAJ

[A] 569391 [B] \$6939\$ [C] #6939# [D] #6939\$

[Q.75] In a certain code language

AVIATOR = 103, FIXTURE = 86, then how DIVERSE is written in that language ?

[A] 102 [B] 107 [C] 105 [D] 106



MENTORS EDUSERV

MENTORS EDUSERV TALENT REWARD EXAM (METRE) SAMPLE TEST PAPER

[For Students presently in Class 6 going to Class 7 in 2022]

Time : 2 hours

Maximum Marks: 225

PHYSICS

[Q.1]	[D]	[Q.2]	[B]	[Q.3]	[C]	[Q.4]	[B]	[Q.5]	[B]
[Q.6]	[B]	[Q.7]	[B]	[Q.8]	[B]	[Q.9]	[D]	[Q.10]	[C]
[Q.11]	[C]	[Q.12]	[D]	[Q.13]	[D]	[Q.14]	[A]	[Q.15]	[C]

CHEMISTRY

[Q.16]	[A]	[Q.17]	[D]	[Q.18]	[A]	[Q.19]	[B]	[Q.20]	[A]
[Q.21]	[D]	[Q.22]	[C]	[Q.23]	[C]	[Q.24]	[D]	[Q.25]	[C]
[Q.26]	[C]	[Q.27]	[C]	[Q.28]	[B]	[Q.29]	[C]	[Q.30]	[C]

MATHEMATICS

[Q.31]	[C]	[Q.32]	[B]	[Q.33]	[C]	[Q.34]	[C]	[Q.35]	[C]
[Q.36]	[A]	[Q.37]	[C]	[Q.38]	[C]	[Q.39]	[D]	[Q.40]	[D]
[Q.41]	[D]	[Q.42]	[B]	[Q.43]	[B]	[Q.44]	[B]	[Q.45]	[A]

BIOLOGY

[Q.46]	[D]	[Q.47]	[A]	[Q.48]	[A]	[Q.49]	[C]	[Q.50]	[C]
[Q.51]	[C]	[Q.52]	[D]	[Q.53]	[D]	[Q.54]	[B]	[Q.55]	[B]
[Q.56]	[D]	[Q.57]	[A]	[Q.58]	[B]	[Q.59]	[C]	[Q.60]	[B]

MENTAL ABILITY

[Q.61]	[C]	[Q.62]	[A]	[Q.63]	[A]	[Q.64]	[C]	[Q.65]	[D]
[Q.66]	[D]	[Q.67]	[A]	[Q.68]	[A]	[Q.69]	[C]	[Q.70]	[B]
[Q.71]	[A]	[Q.72]	[C]	[Q.73]	[B]	[Q.74]	[C]	[Q.75]	[B]