

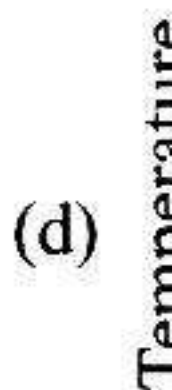
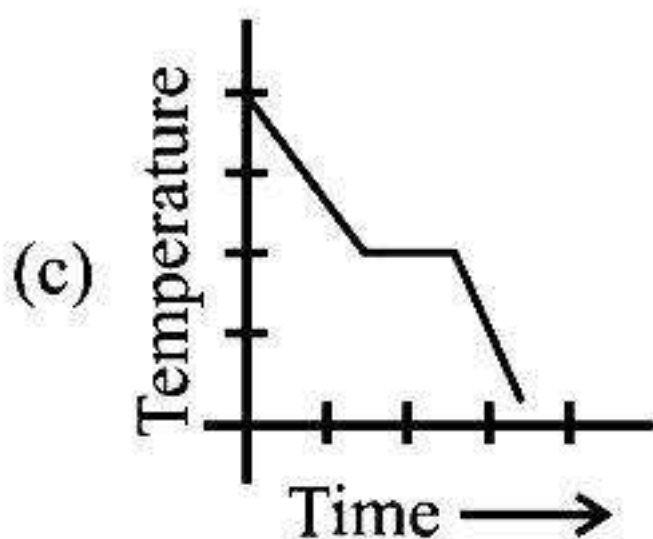
ALL INDIA SAINI

Note :-

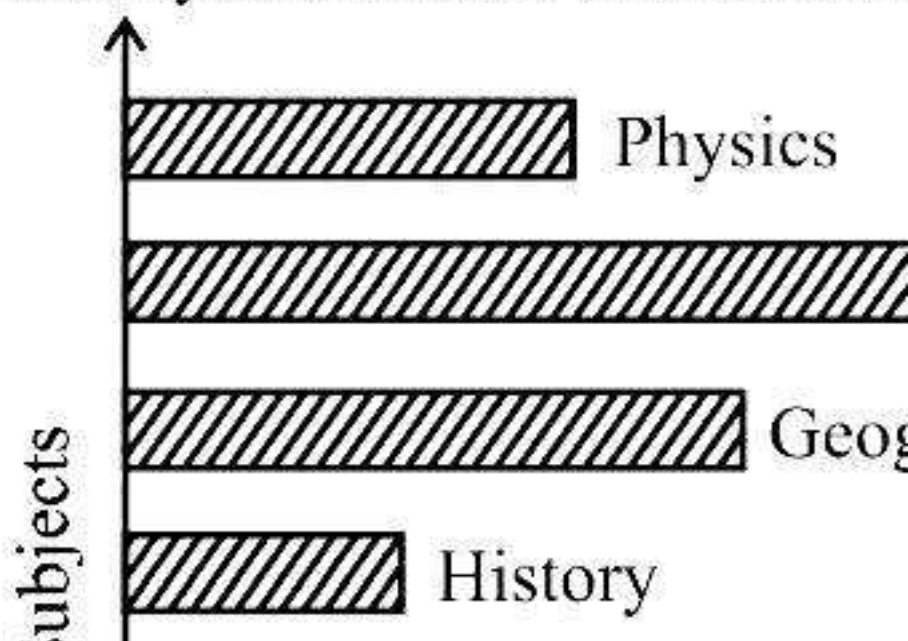
1. This Question Paper Booklet contains English, Section "C" General Science question. In all, the paper consists of
2. The test is of 3 hours (180 minutes)

SECTION-A: MATHS

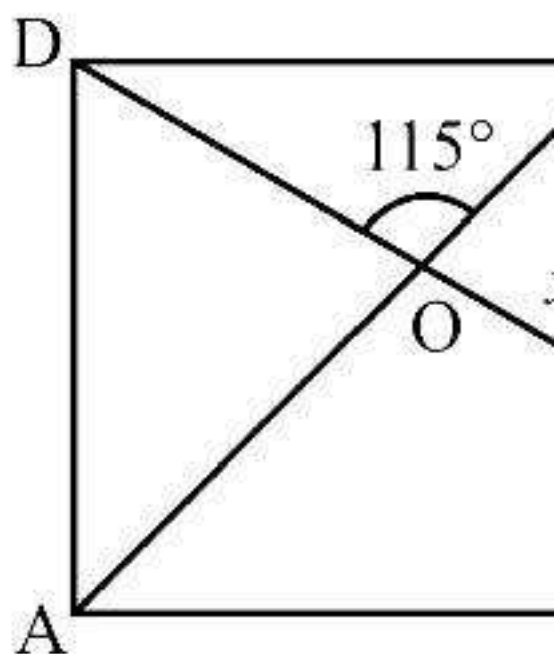
1. A wrist watch with MRP ₹ 5000 is available in different showrooms at different offers. The offer of an additional 40% off after a discount



13. The following bar graph shows studying various subjects in a col carefully and answer the followi



- (a) 5 m (b) 4
(c) 4.3 m (d) 6
30. The sum of additive inverse and $\frac{2}{9}$ is
(a) $\frac{9}{2}$ (b) 2
(c) $\frac{18}{77}$ (d) 7
31. When two unbiased dice are rolled, the probability of getting both same outcomes is
(a) 0 (b) $\frac{1}{3}$
(c) $\frac{5}{36}$ (d) $\frac{1}{3}$
32. If HCF and LCM of two terms are x and y respectively and $a + b = x + y$, then
(a) $a^2 - b^2$ (b) 2



The value of x is

(a) 40

(b) 70

(c) 80

(d) 85

49. If $\frac{1}{y}$

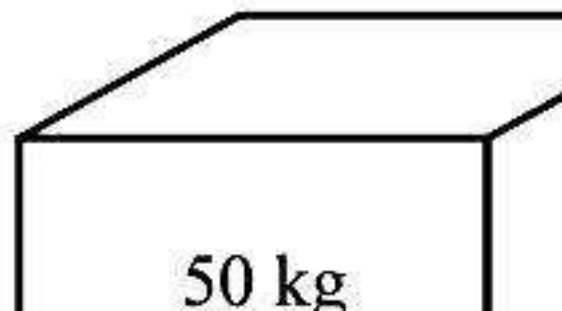
$$\frac{x + y}{z} = 6$$

where z and y are single-digit numbers

then the value of y and z respectively

64. Everybody _____ keen to participate.
- (a) is (b) are
(c) were (d) have
65. You _____ consult the Thesaurus for those words.
- (a) had to (b) must
(c) used to (d) need
66. Which of the following is an imperative sentence?
- (a) May God bless you, my friend.
(b) They were not invited to the party.
(c) Open the windows.
(d) Creativity is allowing yourself to be playful and experimental.
67. Ramesh knocked at the door through which he had never entered before.
The word 'but' is used in the sentence as a _____.
- (a) preposition (b) conjunction

83. Which type of organisms, live and digest wood cellulose carbohydrates ?
- (a) Algae (b) Fungi
(c) Protozoa (d) Nematodes
84. Metals are generally hard. Which metal is an exception and can be cut with a knife?
- (a) Iron (b) Sodium
(c) Gold (d) Mercury
85. A cube of side 0.2 m rests on the floor. If the cube has a mass of 50 kg, the pressure exerted by the cube on the floor is (10⁵ N/m²)

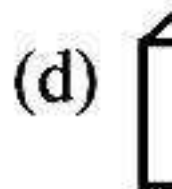
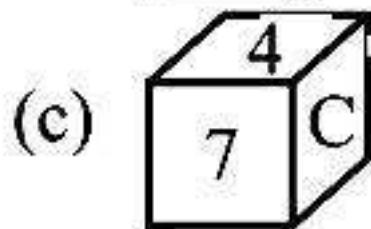
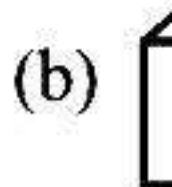
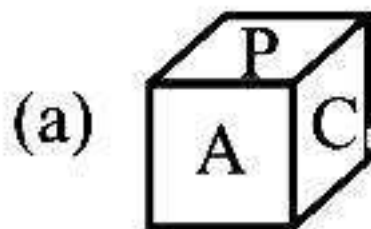


- (a) It is the process of transformation through drastic changes.
- (b) In human beings, metamorphosis occurs because the young ones resemble their parents at the time of birth.
- (c) Life cycle of butterflies is complete metamorphosis involving egg, larva, pupa, and adult.
- (d) A tadpole that hatches out of an egg and grows into an adult frog in almost all respects.

98. Which of the following statements is correct?

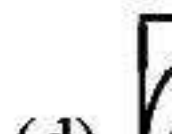
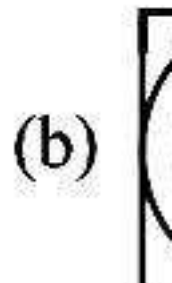
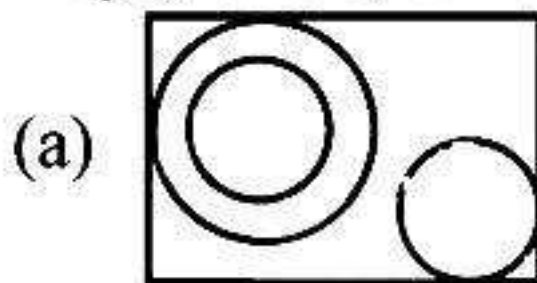
- (i) All plastics do not have same repeating units.
- (ii) Melamine resists fire and can be used for making other plastics.
- (iii) Plastics with cross-linked molecules are thermoplastic.
- (iv) The application of plastics is limited to only one field.

- (a) They are created by natural
 - (b) They have definite chemical
 - (c) They are inexhaustible
 - (d) Their distribution is even
120. An FIR is filed with the _____.
- (a) Police
 - (b) C
 - (c) Army
 - (d) C
121. Growing vegetables, flowers, fruits for commercial use is known as _____.
- (a) Viticulture
 - (b) S
 - (c) Horticulture
 - (d) P
122. Who gave the call 'Back to Vedas'?
- (a) Raja Rammohan Roy
 - (b) Tara Bai Shinde
 - (c) Jyotiba Phule



136. The question given below contains a group of items which may or may not have some relationship among them. One of the group of items may fit into one of the diagrams (a), (b), (c), (d). Indicate the diagram in which the given item correctly fits into.

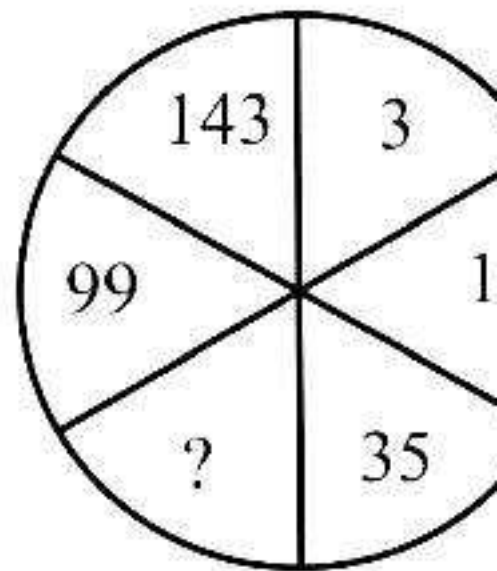
Boys, Class, Girls



147. Freya is on the left of the person sitting in the middle. Bella is on the right of the person sitting in the middle. Sara is on the right of the person sitting in the middle. Austin is on the right of Sara. Austin is the person sitting in the middle. Who is on the left of the person sitting in the middle?

- (a) Freya (b) Bella
(c) Sara (d) Austin

148. Find the missing number in the figure.



- (a) 56 (b) 63
(c) 63 (d) 63

SECTION-A: MATHS

1. (b) MRP of wrist-watch = ₹ 5000
Successive discount in first

$$= 50 + 40 - \frac{50 \times 40}{100} = 70\%$$

Discount in second show-room

- ∴ Difference in two selling prices

$$= 5000 \times \frac{(80 - 70)}{100} = ₹ 500$$

2. (d) Throwing a stone from a roof

17. (a) Curved surface area of cone
According to the question,

$$\pi r_1 l_1 = \pi r_2 l_2$$

$$\Rightarrow r_1 \times 3 = r_2 \times 5$$

$$\Rightarrow \frac{r_1}{r_2} = \frac{5}{3}$$

So, the required ratio of radii is $5:3$.

18. (a) $3a + 4b = 16$

Squaring on both sides,

$$(3a + 4b)^2 = 16^2$$

$$\Rightarrow 9a^2 + 16b^2 + 24ab = 256$$

$$\Rightarrow 9a^2 + 16b^2 = 256 - 24 \times 4$$

$$\Rightarrow 9a^2 + 16b^2 = 160.$$

19. (a) $\sqrt{1 + \frac{27}{160}} = 1 + \frac{x}{12}$

$$\pi r^2 h = \pi (R^2 - r^2) \times H$$

(where H is height of embankment)

$$\Rightarrow 5 \times 5 \times 14 = (R^2 - 25) \times \frac{14}{3}$$

$$\Rightarrow 75 = R^2 - 25$$

$$\Rightarrow R^2 = 100$$

$$\Rightarrow R = 10 \text{ m.}$$

So, width of embankment =
 $= 10 - 5 = 5 \text{ m.}$

30. (d) Additive inverse of $\frac{2}{9}$ is $-\frac{2}{9}$.

And multiplicative inverse

$$\text{Sum} = \frac{-2}{9} + \frac{9}{2} = \frac{-4 + 81}{18} = \frac{77}{18}$$

31. (d) When two dice are rolled together

-
38. (b) Number of students who co
Number of students don't c
 $= 42 - 30 = 12$

According to the question,

$$\frac{3}{4}B + \frac{2}{3}G = 30$$

$$\frac{1}{4}B + \frac{1}{3}G = 12$$

Multiply by 2 in Eqn (2) an

$$\frac{3}{4}B + \frac{2}{3}G = 30$$

$$\frac{1}{2}B + \frac{2}{3}G = 24$$

— — —

$$\therefore \angle COX = 180^\circ - 115^\circ = 65^\circ$$

In triangle COX ,

$$\begin{aligned} \angle COX + \angle OCX + \angle OXC &= 180^\circ \\ 65^\circ + 45^\circ + x^\circ &= 180^\circ \end{aligned}$$

(\because In a square diagonal bisects the angles)

$$\therefore \angle OCX = 45^\circ$$

$$\Rightarrow x = 180^\circ - (45^\circ + 65^\circ)$$

$$\Rightarrow x = 180^\circ - 110^\circ$$

$$\Rightarrow x = 70^\circ.$$

49. (a)
$$\begin{array}{r} 1 \quad y \\ + x \quad y \\ \hline z \quad 6 \end{array}$$

$$\begin{cases} y + y = 6 & z - y = 3 & 1 + x = 6 \\ 2y = 6 & z - 3 = 3 & 1 + x = 6 \\ y = 3 & z = 6 & x = 5 \end{cases}$$

$$\begin{cases} y + y = 6 & z - y = 3 & 1 + x = 6 \\ 2y = 6 & z - 3 = 3 & 1 + x = 6 \\ y = 3 & z = 6 & x = 5 \end{cases}$$

64. (a) **“Is”** appropriately fits the blank. A helping verb always precedes the main verb. **“Everybody”** must be used as a singular pronoun.
65. (b) **“Need to”** fits the blank appropriately.
66. (c) **“Open the windows”** is the correct answer. **An imperative sentence** is a sentence that is a direct command, request, or instruction.
67. (b) **“Conjunction”** is the correct answer. **conjunction** is a part of speech that connects phrases, or clauses that are joined together by the conjunctions..
68. (d) **“Thinks that he has finished”** is the correct answer. **predicate** in the sentence; A

84. (b) Alkali metals like sodium are soft and can be easily cut with a knife.

85. (d) Given

Side of a cube = 0.2 m

Mass of cube = 50 kg

Force applied on the floor by the cube

$= mg = 50 \text{ kg} \times 10 \text{ N kg}^{-1} = 500 \text{ N}$

Area of the cube = $0.2 \times 0.2 = 0.04 \text{ m}^2$

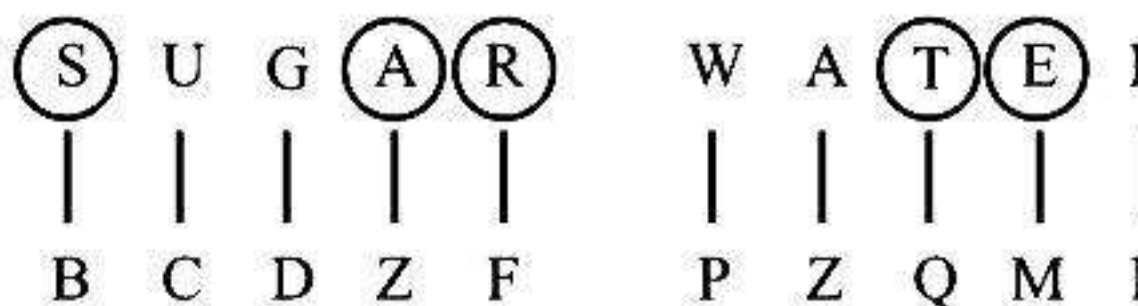
Pressure = $F/A = 500/0.04 = 12500 \text{ N m}^{-2}$

86. (a) As we know in case of plane mirror, the angle of incidence is equal to the angle of reflection. If we place the eye on point A, the light rays from the object will be reflected towards the eye.

87. (d) Mammals have sex determined by the presence of sex chromosomes. Males have XY pair of chromosomes and females have XX pair of chromosomes.

122. (d) Swami Dayanand Saraswati founded the Arya Samaj. He gave the slogan 'Back to Ved'.
123. (a) Contaminated water and poor sanitation lead to transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis A, etc.
124. (d) The Child Marriage Restraint Act, 1929, on 28 September 1929, in the Legislative Council of India, fixed the minimum age for marriage at 14 years for girls and 18 years for boys.
125. (d) The Constitution guarantees the following rights to Indian citizens as follows: (i) right to equality, (ii) right to freedom, (iii) right to religious freedom, (iv) right to freedom of speech and expression, (v) educational rights, and (vi) remedies.
-

142. (c)



143. (d) There are 16 line segments.

144. (a) $P + R = 2Q$

$$Q + S = 2P$$

From equation (i),

$$P + R = Q + Q$$

Put the value of 'Q' in equation

(ii),

$$P + R = 2P - S + Q$$

$$\Rightarrow R + S = P + Q$$

$$\Rightarrow P + Q = R + S$$