08/02/2026

Code-E

Aakash
Medical | IIT-JEE | Foundations

Corporate Office : AESL, 3rd Floor, Incuspaze Campus-2, Plot No. 13, Sector-18,
Udyog Vihar, Gurugram, Haryana - 122015, ***Ph.***+91-1244168300

MM : 120 CBSE AIATS-SP Class-VIII (2025-26) T03E **Time : 180 Min.**

PHYSICS

1. (4)
2. (4)
3. (2)
4. (3)
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CHEMISTRY

26. (4)
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28. (3)
29. (3)
30. (2)
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38. (3)
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BIOLOGY

51. (3)
52. (3)
53. (2)
54. (4)
55. (1)
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MATHEMATICS

76. (3)
77. (4)
78. (3)
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80. (2)
81. (3)
82. (4)
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92. (2)
93. (4)
94. (2)
95. (3)
96. (4)
97. (2)
98. (3)
99. (4)
100. (2)

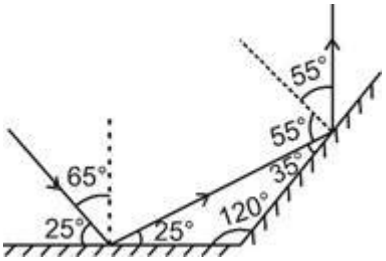
MENTAL ABILITY

101. (1)
102. (3)
103. (3)
104. (2)
105. (4)
106. (3)
107. (2)
108. (4)
109. (3)
110. (2)
111. (2)
112. (1)
113. (3)
114. (2)
115. (1)
116. (4)
117. (2)
118. (3)
119. (1)
120. (2)

Hints and Solutions

PHYSICS

(1) **Answer :** (4)
Solution:



(2) **Answer :** (4)

(3) **Answer :** (2)

(4) **Answer :** (3)

(5) **Answer :** (1)

(6) **Answer :** (3)

(7) **Answer :** (3)

(8) **Answer :** (2)

(9) **Answer :** (1)

(10) **Answer :** (2)

(11) **Answer :** (4)

(12) **Answer :** (2)

(13) **Answer :** (2)
Solution:

$I \propto (A)^2$

$\frac{I_1}{I_2} = \left(\frac{A_1}{A_2}\right)^2$

$\frac{A_1}{A_2} = \sqrt{\frac{I_1}{I_2}} = \sqrt{\frac{9}{16}} = \frac{3}{4}$

$\frac{A_1'}{A_2'} = \frac{2A_1}{A_2/2} = \frac{4A_1}{A_2} = 4 \times \frac{3}{4} = 3$

$\frac{I_1'}{I_2'} = \left(\frac{A_1'}{A_2'}\right)^2 = (3)^2 = 9$

(14) **Answer :** (4)

(15) **Answer :** (4)

(16) **Answer :** (4)

(17) **Answer :** (3)

(18) **Answer :** (3)

(19) **Answer :** (3)

(20) **Answer :** (4)

(21) **Answer :** (2)

(22) Answer : (2)

(23) Answer : (2)

(24) Answer : (4)

(25) Answer : (3)

CHEMISTRY

(26) Answer : (4)

(27) Answer : (4)

(28) Answer : (3)

(29) Answer : (3)

(30) Answer : (2)

(31) Answer : (4)

(32) Answer : (3)

(33) Answer : (3)

(34) Answer : (3)

(35) Answer : (4)

(36) Answer : (4)

(37) Answer : (2)

(38) Answer : (3)

(39) Answer : (2)

(40) Answer : (1)

(41) Answer : (3)

(42) Answer : (2)

(43) Answer : (4)

(44) Answer : (3)

Solution:

Kerosene is used as fuel for jet aircrafts.
Diesel is used as fuel for generators
Paraffin wax is used in making ointments
Bitumen is used in paints.

(45) Answer : (4)

(46) Answer : (3)

(47) Answer : (3)

(48) Answer : (4)

Solution:

X = Amount of heat produced = Mass of the fuel × Calorific value
= 2.5 kg × 45000 kJ/kg
= 112500 kJ

Y = Calorific value = $\frac{\text{Amount of heat produced}}{\text{Mass of the fuel}}$

$= \frac{75000\ \text{kJ}}{1.5\ \text{kg}}$ = 50000 kJ/kg

Z = Mass of the fuel = $\frac{\text{Amount of heat produced}}{\text{Calorific value}}$

$= \frac{105000\ \text{kJ}}{35000\ \text{kJ/kg}} = 3\ \text{kg}$

(49) **Answer :** (1)
Solution:
Wood is combustible but iron nails are non-combustible.
Burning of LPG is an example of rapid combustion.
All combustible substance may burn with or without flame.

(50) **Answer :** (3)
Solution:
B = Middle zone/Luminous zone
A = Zone of no combustion/Innermost or black zone
C = Non-luminous zone/Outermost zone

BIOLOGY

(51) **Answer :** (3)

(52) **Answer :** (3)

(53) **Answer :** (2)
Solution:
Sex of children is determind by what they inherit from their father, If child inherit X chromosome from father will be a girl and one who inherit is a Y chromosome from him will be a boy.

(54) **Answer :** (4)

(55) **Answer :** (1)

(56) **Answer :** (1)

(57) **Answer :** (1)

(58) **Answer :** (3)
Solution:
Migratory birds fly far away every year during a particular time because of climatic changes.

(59) **Answer :** (2)
Solution:
Insulin, secreted by the pancreas, maintains blood sugar level.

(60) **Answer :** (4)

(61) **Answer :** (2)

(62) **Answer :** (1)

(63) **Answer :** (2)

(64) **Answer :** (4)
Solution:
Amoeba and *Paramecium* belongs to group Protozoa.

(65) **Answer :** (4)

(66) **Answer :** (1)

(67) **Answer :** (4)

(68) **Answer :** (1)

(69) **Answer :** (4)

(70) **Answer :** (1)

(71) **Answer :** (1)

(72) **Answer :** (2)

(73) Answer : (1)
Solution:
Formula for calculation of full height (cm) :

$$\frac{\text{Present height (cm)}}{\%\text{of full height at this age}} \times 100$$

(74) Answer : (4)

(75) Answer : (3)

MATHEMATICS

(76) Answer : (3)

(77) Answer : (4)

(78) Answer : (3)

(79) Answer : (2)

(80) Answer : (2)
Solution:
$2x + 3x + 4x + 5x + 6x = 360°$
$\Rightarrow x = 18°$

(81) Answer : (3)
Solution:
P(Black ball) = $\frac{8}{8+4} = \frac{8}{12} = \frac{2}{3}$

(82) Answer : (4)
Solution:
$\frac{6000}{20} = \frac{9000}{x}$
$\Rightarrow x = 30$ cm

(83) Answer : (1)

(84) Answer : (3)

(85) Answer : (4)
Solution:
$162000 = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 3 \times 5 \times 5 \times 5$
$\therefore$ 162000 should be divided by $2 \times 3 = 6$ to make it a perfect cube.

(86) Answer : (4)
Solution:
$400 = 2^4 \times 5^2$, to make it perfect square and a perfect cube it should be multipled by $2^2 \times 5^4 = 4 \times 625 = 2500$

(87) Answer : (3)
Solution:
Let the amount he deposited in the bank be ₹x.
According to the question,

$$x\left[\left(1+\tfrac{5}{100}\right)^3 - 1\right] - \left[x\left\{\left(1+\tfrac{5}{100}\right)^2 - 1\right\} + x\left\{\left(1+\tfrac{5}{100}\right) - 1\right\}\right] = 164$$

$$\Rightarrow \left[x\left(1+\tfrac{1}{20}\right)^3 - x\right] - \left[x\left(\tfrac{21}{20}\right)^2 + x\left(\tfrac{21}{20}\right) - 2x\right] = 164$$

$$\Rightarrow x\left(\tfrac{9261}{8000}\right) - x - x\left(\tfrac{441}{400}\right) - \tfrac{21x}{20} + 2x = 164$$

$$\Rightarrow x\left[\tfrac{9261}{8000} - \tfrac{8820}{8000} - \tfrac{8400}{8000} + \tfrac{8000}{8000}\right] = 164$$

$$\Rightarrow x\left[\tfrac{41}{8000}\right] = 164$$

$\Rightarrow x =$ ₹32000

(88) Answer : (1)

(89) Answer : (3)
Solution:
$(4x + 2y)(4x – 2y) = (4x)^2 – (2y)^2$
$= 16x^2 – 4y^2$

(90) Answer : (1)
Solution:
$\left(\frac{7}{5}a^3\right) \times \left(\frac{-25}{21}a^2\right) = \frac{7}{5} \times \frac{-25}{21}a^3 \times a^2 \ = \frac{-5}{3}a^5$

(91) Answer : (3)
Solution:
$r_2 = r_1 + 20\% \text{ of } r_1 = 1.2r_1 = \frac{6}{5}r_1$
$h_2 = h_1 - 50\% \text{ of } h_1 = \frac{1}{2}h_1$
% change $= \frac{\pi r_1^2 h_1 - \pi r_2^2 h_2}{\pi r_1^2 h_1} \times 100\%$
$= \frac{\pi r_1^2 h_1 - \pi \times \left(\frac{6}{5}r_1\right)^2 \times \frac{1}{2}h_1}{\pi r_1^2 h_1} \times 100\%$
$= \frac{1 - \frac{36}{25} \times \frac{1}{2}}{1} \times 100\%$
$= \left(\frac{7}{25} \times 100\right)\%$
= 28%

(92) Answer : (2)

(93) Answer : (4)
Solution:
$x = 7^{18} = (7^3)^6 = (343)^6$
$y = 3^{30} = (3^5)^6 = (243)^6$
$z = 11^{12} = (11^2)^6 = (121)^6$
$a = 2^{42} = (2^7)^6 = (128)^6$
$\therefore\ x > y > a > z$

(94) Answer : (2)

(95) Answer : (3)
Solution:
$(-5)^6 \times \left(\frac{7}{5}\right)^3 = 5^3 \times 7^3$
$= 35^3$

(96) Answer : (4)
Solution:
Let the height of tower be h m
$\frac{15}{h} = \frac{5}{8}$
$\Rightarrow\ h = 24$ m

(97) Answer : (2)
Solution:
$100 \times 30 = 150 \times d$
$\Rightarrow d = 20$

(98) Answer : (3)

(99) Answer : (4)

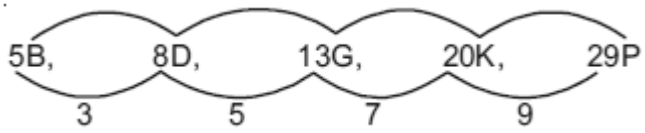
(100) Answer : (2)

MENTAL ABILITY

(101) Answer : (1)
Solution:
Product of consecutive prime number
$2 \times 3, 3 \times 5, 5 \times 7, 7 \times 11, 11 \times 13, 13 \times 17 = 221$

(102) Answer : (3)
Solution:
Letter +2 / Letter –2

(103) Answer : (3)
Solution:

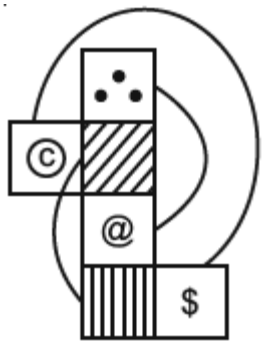


(104) Answer : (2)
Solution:
pq p qpr p rpqp q prp r pqpq

(105) Answer : (4)
Solution:
$8 + 2 \Rightarrow (8 + 2)^2 = 100$
$16 + 3 \Rightarrow (16 + 3)^2 = 361$
$7 + 14 \Rightarrow (7 + 14)^2 = 441$

(106) Answer : (3)
Solution:
$(10 \times 4) + (4 \times 4) – 6 = 50$

(107) Answer : (2)
Solution:



(108) Answer : (4)
Solution:
CD : 25
$3^2 + 4^2 = 25$
$YZ = 25^2 + 26^2 = 1301$

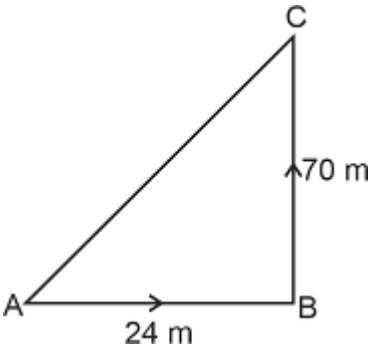
(109) Answer : (3)
Solution:
By observation

(110) Answer : (2)
Solution:
Direct coding of letter in to numbers.

(111) Answer : (2)
Solution:
K L D V I ⟶ Opposite letters of POWER
11 + 12 + 4 + 22 + 9 = 58
∴ LITTLE = 84

(112) Answer : (1)

Solution:

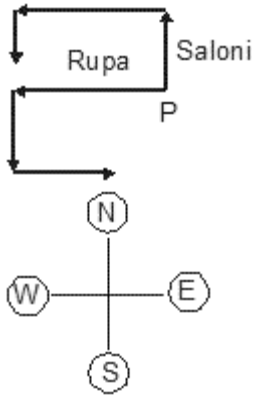


$AC = \sqrt{AB^2 + BC^2}$

$AC = \sqrt{(24)^2 + 70^2} = 74\ m$

(113) Answer : (3)

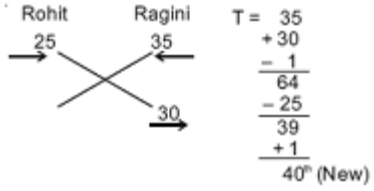
Solution:



So, Rupa is facing towards East and Saloni is facing South.

(114) Answer : (2)

Solution:



(115) Answer : (1)

Solution:

Required ratio

$x : 4x = 1 : 4$

(116) Answer : (4)

Solution:

36 + 49 – 87 = – 2

(117) Answer : (2)

Solution:

In a column, middle number is the product of remaining two numbers.

2 × 4 = 8

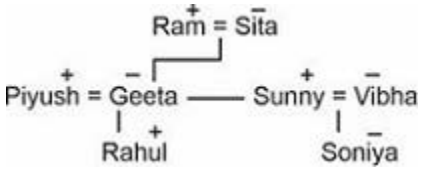
(118) Answer : (3)

Solution:

Flip vertically

(119) Answer : (1)

Solution:



(120) Answer : (2)

Solution: