08/02/2026

Code-C

Aakash
Medical | IIT-JEE | Foundations

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Udyog Vihar, Gurugram, Haryana - 122015, ***Ph.***+91-1244168300

MM : 120 ICSE AIATS for Class-IX (2025-26) T05C **Time : 180 Min.**

PHYSICS

1. (2)
2. (3)
3. (2)
4. (3)
5. (1)
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7. (4)
8. (3)
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24. (1)
25. (4)

CHEMISTRY

26. (2)
27. (3)
28. (3)
29. (4)
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31. (3)
32. (3)
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38. (2)
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BIOLOGY

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MATHEMATICS

76. (2)
77. (3)
78. (3)
79. (1)
80. (2)
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96. (2)
97. (3)
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100. (2)

MENTAL ABILITY

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

Hints and Solutions

PHYSICS

(1) **Answer :** (2)

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

(3) **Answer :** (2)
Solution:
$T = 2\pi\sqrt{\frac{l}{g}}$
$2 = 2\pi\sqrt{\frac{l\times 7}{9.8}}$
$l = 1.4/\pi^2$ m

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

(5) **Answer :** (1)
Solution:
Net displacement
$= \frac{1}{2}\times 5\times 10 + \frac{1}{2}(5+2)\times 5 + 2\times 10 + \frac{1}{2}\times 2\times 5$
$= 25 + \frac{35}{2} + 20 + 5$
$= \frac{135}{2}$ m
Average velocity $= \frac{135}{2\times 30} = 2.25$ m/s

(6) **Answer :** (1)
Solution:
$v^2 = u^2 + 2as$

(7) **Answer :** (4)

(8) **Answer :** (3)
Solution:
Acceleration of mid-point
$a = \frac{F}{M}$

$v = u + at$
$= \frac{F}{m}\cdot t$

(9) **Answer :** (4)

(10) **Answer :** (1)
Solution:
When the table is horizontal the trapped air is at atmospheric pressure, so
$P_1 = P_0 = 76$ cm of Hg
When the tube is placed vertically with open end up, so
$P_2 = P_0 + 8$ cm of Hg
By isothermal compression,
$P_1L_1 = P_2L_2$
$\Rightarrow\ L_2 = \frac{P_1}{P_2}\times L_1 = \frac{76}{76+8}\times 10 = 9.047 \simeq 9.05$ cm

(11) **Answer :** (1)

(12) **Answer :** (1)
Solution:
$E = mc^2$

$\Rightarrow m = \frac{3.45\times10^{13}}{(3\times10^{8})^2}$

= 0.384 × 10^{-3} kg

(13) Answer : (1)

(14) Answer : (3)

(15) Answer : (2)

Solution:

From the mirror formula

$\frac{1}{v} + \frac{1}{u} = \frac{1}{f}$

$\Rightarrow\ v = \frac{uf}{u-f}$

$\Rightarrow\ v = \frac{(-9)\times1}{-9-1} = \frac{9}{10}$ m

Let u_1 be the position of jogger after 1 s then,

u_1 = –9 + 4 = –5 m

v_1 = $\frac{-5\times1}{-5-1} = \frac{5}{6}$ m

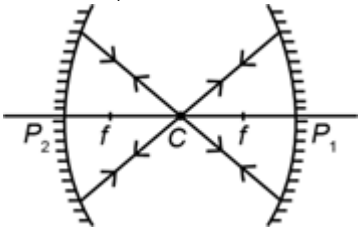
$v - v_1$ = $\frac{9}{10} - \frac{5}{6} = \frac{1}{15}$ m

Hence, the average speed of image is $\frac{1}{15}$ m/s

(16) Answer : (3)

Solution:

When the object is at *C*, then the image is formed at *C*. So the point object should be placed at centre of curvature of both the mirrors *i.e.,*



2*f* + 2*f* = 20

4*f* = 20

f = 5 cm

(17) Answer : (4)

(18) Answer : (4)

(19) Answer : (2)

Solution:

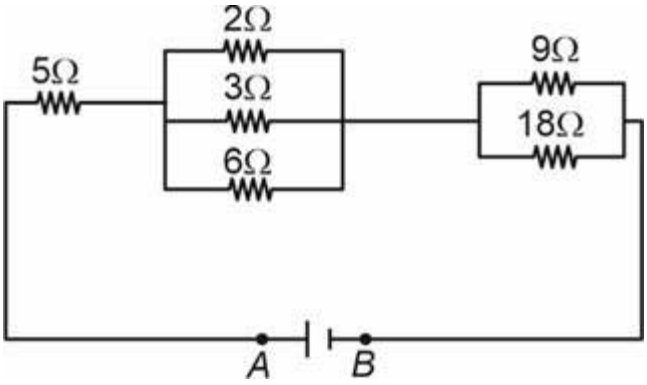
The reflected wave is in air

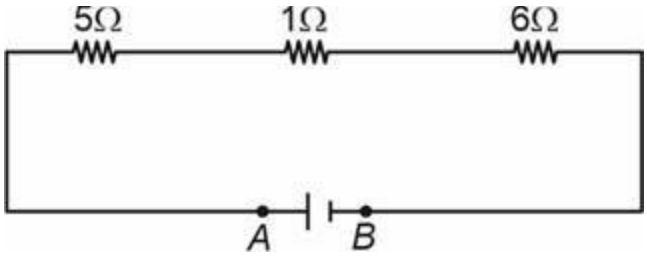
$\lambda = \frac{v}{\nu}$ = $\frac{320}{10^5}$

= 3.2 × 10^{-3} m

(20) Answer : (1)

Solution:





R_{eq} = 5 + 1 + 6 = 12 Ω

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

(22) **Answer :** (2)

(23) **Answer :** (2)
Solution:
$m = \frac{-v}{u}$
⇒ v = 5 × 10 = 50 cm

(24) **Answer :** (1)
Solution:
$R' = n^2R$
$= (1.1)^2R$
$= 1.21R$

(25) **Answer :** (4)

CHEMISTRY

(26) **Answer :** (2)

(27) **Answer :** (3)

(28) **Answer :** (3)
Solution:

$$\underset{\text{(White)}}{2\,AgCl\,(s)} \xrightarrow{\text{Sunlight}} \underset{\text{(Grey)}}{2\,Ag\,(s)} + Cl_2\,(g)$$

(29) **Answer :** (4)

(30) **Answer :** (1)
Solution:
Mass No = No. of protons + No. of neutrons.
40 = No. of protons + 22
⇒ No. of protons = 40 – 22
No. of protons = 18
We know that atomic no. = no. of protons.
Atomic no. = 18
Hence it is argon

(31) **Answer :** (3)

(32) **Answer :** (3)

(33) **Answer :** (1)

(34) **Answer :** (4)

(35) **Answer :** (3)

(36) **Answer :** (4)

(37) **Answer :** (3)
Solution:
Molar mass of sodium carbonate (Na_2CO_3)

= 23 × 2 + 12 + 16 × 3 = 106 g
∴ % composition of oxygen
$= \frac{3\times16}{106} \times 100 = 45.3\%$

(38) Answer : (2)

(39) Answer : (3)
Solution:
Temperature in K = Temperature in °C + 273
For X, T = 17 + 273 = 290 K
Y, T = 70 + 273 = 343 K
Z, T = 30 + 273 = 303 K

(40) Answer : (4)

(41) Answer : (4)

(42) Answer : (4)
Solution:
Given:
V_1 = 200 mL, V_2 = ?
P_1 = 770 mm of Hg, P_2 = 720 mm of Hg
According to Boyle's law,
$P_1V_1 = P_2V_2$

$\Rightarrow V_2 = \frac{P_1V_1}{P_2} = \frac{770\times200}{720} = 213.88$ mL

(43) Answer : (1)
Solution:
A = Nitrogen
B = Oxygen
C = Carbon

(44) Answer : (4)

(45) Answer : (1)
Solution:
At const. T, $P_1V_1 = P_2V_2$
P_1 = 800 mm Hg, V_1 = 200 cm^3
$P_2 = 800 - \left(800 \times \frac{20}{100}\right) = 640$ mm Hg
V_2 = ?
800 × 200 = 640 × V_2
$V_2 = \frac{800\times200}{640}$
V_2 = 250 cm^3

(46) Answer : (3)

(47) Answer : (2)

(48) Answer : (4)
Solution:

Concentration of solution (%w/w) $= \frac{\text{Mass of solute}}{\left(\text{Mass of solute + solvent}\right)} \times 100$

$= \frac{15}{(25+15)} \times 100$
= 37.5%
Let the amount of water added to make concentration 20% is x g
$\frac{20}{100} = \frac{15}{40+x}$
$\frac{1}{5} = \frac{15}{40+x}$
40 + x = 75
x = 75 – 40
x = 35 g

(49) **Answer :** (3)

(50) **Answer :** (2)

BIOLOGY

(51) **Answer :** (2)

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

(53) **Answer :** (4)

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

(55) **Answer :** (2)
Solution:
Yeast is used for the purpose of fermentation, a process of anaerobic conversion of sugars into alcohol.

(56) **Answer :** (3)

(57) **Answer :** (3)

(58) **Answer :** (1)

(59) **Answer :** (3)

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

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

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

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

(64) **Answer :** (2)

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

(66) **Answer :** (1)
Solution:
Organism 'D' is *Ascaris*.

(67) **Answer :** (3)

(68) **Answer :** (3)

(69) **Answer :** (1)

(70) **Answer :** (4)

(71) **Answer :** (2)

(72) **Answer :** (3)

(73) **Answer :** (1)

(74) **Answer :** (1)

(75) **Answer :** (3)

MATHEMATICS

(76) **Answer :** (2)
Solution:
$(x + 2y - 1)(x + 3y - 3) = 31 \times 41$
Since x and y are natural numbers, $(x + 2y - 1)$ and $(x + 3y - 3)$ are prime numbers,
So, $x + 2y - 1 = 31$ ...(i)
and $x + 3y - 3 = 41$ ...(ii)

⇒ $x = 8$ and $y = 12$ [From (i) and (ii)]

⇒ $\frac{y}{x} = \frac{3}{2}$

(77) Answer : (3)

(78) Answer : (3)

(79) Answer : (1)

Solution:

C.I. = A – P

$= P\left(1+\frac{R}{100}\right)^n - P$

S.I. $= \frac{PRN}{100}$

Since, Rehan made a profit of ₹500, so

C.I. – S.I. = ₹500

⇒ $P\left(1+\frac{R}{100}\right)^n - P - \frac{PRN}{100} = ₹500$

Putting $R = 5$, $n = 2$

$P\left(1+\frac{5}{100}\right)^2 - P - \frac{P\times 10}{100} = ₹500$

⇒ $P\left[\left(\frac{21}{20}\right)^2 - \frac{11}{10}\right] = 500$

∴ P = ₹2,00,000

(80) Answer : (2)

(81) Answer : (4)

(82) Answer : (4)

(83) Answer : (1)

(84) Answer : (3)

(85) Answer : (1)

(86) Answer : (2)

Solution:

$\log_{18}x - \log_{18}\sqrt{x} = \frac{2}{\log_{18} x}$ [Given]

Let $\log_{18}x = y$

⇒ $y - \frac{1}{2}y = \frac{2}{y}$

⇒ $\frac{y}{2} = \frac{2}{y}$

⇒ $y = \pm 2$

⇒ $\log_{18}x = \pm 2$

⇒ $x = 324, \frac{1}{324}$

(87) Answer : (3)

Solution:

$\left(\frac{\log_5 250}{\log_{50} 5} - \frac{\log_5 10}{\log_{1250} 5}\right)$ [Given]

⇒ $\log_5 250 \times \log_5 50 - \log_5 10 \times \log_5 1250$

⇒ $\log_5(5^3 \times 2) \times \log_5(5^2 \times 2) - \log_5 5 \times 2 \times \log_5(5^4 \times 2)$

⇒ $(3 + \log_5 2) \times (2 + \log_5 2) - (1 + \log_5 2) \times (4 + \log_5 2)$

⇒ $6 + 5\log_5 2 + (\log_5 2)^2 - [4 + 5\log_5 2 + (\log_5 2)^2]$

⇒ 2

(88) Answer : (2)

Solution:

Sum of all interior angles = $2(n - 2)\cdot 90°$

∴ Each interior angle $= \frac{(n-2)\,180^\circ}{n}$

Each exterior angle $= 180^\circ - \frac{(n-2)\,180^\circ}{n}$

Now,

$180^\circ \left(1-\frac{(n-2)}{n}\right)=18$

⇒ 2(180) = 18*n*

⇒ *n* = 20

Number of diagonals $=\frac{n(n-3)}{2}$

$=\frac{20(20-3)}{2}$

= 170

(89) **Answer :** (3)

Solution:

If *AD* is median of Δ*ABC*, then

AB + *AC* > 2*AD* …(i)

Similarly, *AB* + *BC* > 2*BE* …(ii)

Adding (i) and (ii), we get

AB + *P* > 2(*AD* + *BE*)

(90) **Answer :** (1)

Solution:

Δ*QPR* and Δ*PSR* are similar.

∴ $PR^2 = QR \cdot SR$

Now, $\left(4\sqrt{3}\right)^2=\left(QS+SR\right)\cdot SR$

48 = (8 + *SR*) · *SR*

⇒ SR^2 + 8*SR* – 48 = 0

⇒ SR^2 + 12*SR* – 4*SR* – 48 = 0

⇒ (*SR* + 12) (*SR* – 4) = 0

⇒ *SR* = –12 or *SR* = 4

SR = 4 cm is only possible.

(91) **Answer :** (3)

Solution:

$\text{ar}(\Delta QER)=\frac{1}{2}\text{ar}(\Delta PQR)$ …(i) [Median of a triangle divides it into two triangles of equal area]

Also, *RF* is the median of triangle *PQR*

⇒ $\text{ar}\,(\Delta PRF)=\frac{1}{2}\ \text{ar}\,(\Delta PQR)$ …(ii)

From equations (i) and (ii), we get

ar(Δ*QER*) = ar(Δ*PRF*)

⇒ ar(Δ*QOR*) + ar(Δ*OER*) = ar(□*OEPF*) + ar(Δ*OER*)

⇒ ar(Δ*QOR*) = ar(□*OEPF*)

∴ ar(□*OEPF*) = 7cm^2 [∵ ar(Δ*QOR*) = 7 cm^2]

(92) **Answer :** (4)

(93) **Answer :** (3)

(94) **Answer :** (4)

Solution:

Join *RT*, Now, in quadrilateral *PQRT*

∠*T* = 180° – 130° = 50°

Now, in Δ*PRT*, ∠*R* = 90°

[Angle subtended by a diameter *i.e.*, *PT* on the circle]

∴ ∠*P* = 180° – ∠*R* – ∠*T*

= 180° – 90° – 50° = 40°

(95) **Answer :** (3)

(96) **Answer :** (2)

(97) **Answer :** (3)

(98) **Answer :** (2)

(99) **Answer :** (2)

(100) **Answer :** (2)

MENTAL ABILITY

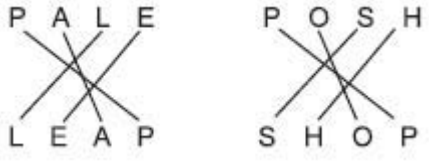
(101) Answer : (1)
Solution:
Difference of 136.

(102) Answer : (3)
Solution:
azbycxdwevfugt

(103) Answer : (4)
Solution:
Letter + 2 + 3 + 4 / Letter + 2 / Letter + 1 + 2 + 3 …

(104) Answer : (4)
Solution:
J 4M5B 6 | J 4M5B 6 | J 4M5 B 6

(105) Answer : (3)
Solution:

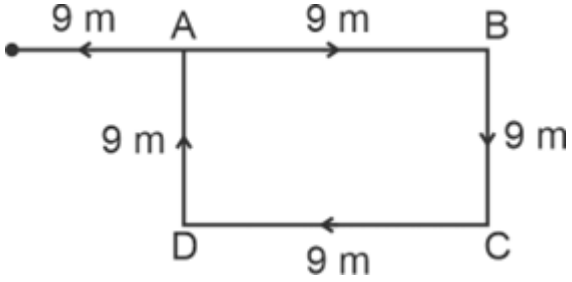


(106) Answer : (2)
Solution:
ab : $(a \times b)^b$

(107) Answer : (1)
Solution:
$2 @ 3 = 2 \times 5^2 = 50$
$50 \$ 49 = 3 \times (50^2 - 49^2) = 3 \times 99 = 297$

(108) Answer : (1)
Solution:
– means ×, × means –, ÷ means + and + mean ÷
$400 \div 20 \times 4 + 16 - 14 = 82$

(109) Answer : (2)
Solution:



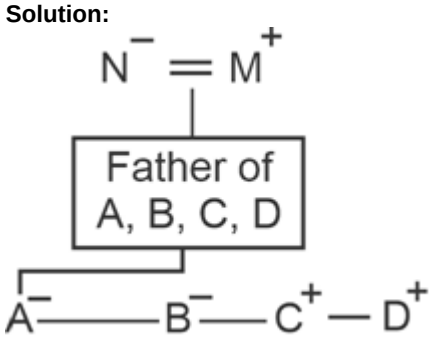
(110) Answer : (3)
Solution:
Sum of positional value written in reverse.

(111) Answer : (1)
Solution:

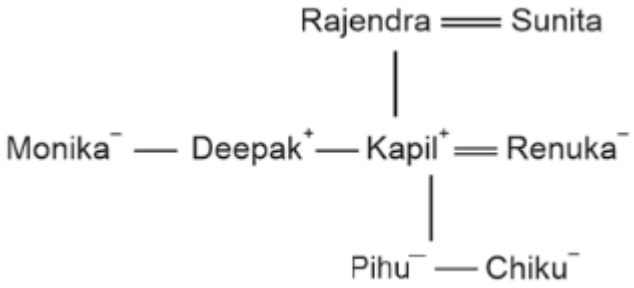
F	O	U	N	D	A	T	I	O	N
+1	+1	+1	+1	+1	+1	+1	+1	+1	+1
G	P	V	O	E	B	U	J	P	O

In reverse order.

(112) Answer : (4)
Solution:



(113) Answer : (2)
Solution:



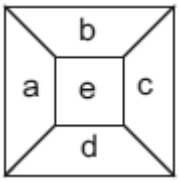
(114) Answer : (2)
Solution:
$\theta = 30\,\mathrm{H} - \frac{11}{2}\,\mathrm{M}$

(115) Answer : (1)
Solution:
There 4 odd days between 6th March 2005 and 6th March 2008.

(116) Answer : (4)
Solution:
Flip vertically

(117) Answer : (4)
Solution:
Flip horizontally

(118) Answer : (2)
Solution:



e = a + b + c + d

(119) Answer : (2)
Solution:
By counting, we get, 3 + 3 + 3 + 3 = 12

(120) Answer : (1)
Solution:
By counting