SSC MOCK TEST – 35 (SOLUTION)

1. (C) $A \xrightarrow{+2} \mathbf{C} \xrightarrow{+2} E$

   $R \xrightarrow{+2} \mathbf{T} \xrightarrow{+2} V$

   $B \xrightarrow{+2} \mathbf{D} \xrightarrow{+2} F$

   $F \xrightarrow{+2} \mathbf{H} \xrightarrow{+2} J$

2. (C) $(6 \times 6) - 1 = 35$

   $(9 \times 6) - 1 = \mathbf{53}$

3. (A) $8 + 1 = 9 \Rightarrow 9^2 = 81 \xrightarrow{\text{opposite}} 18$

   $24 + 1 = 25 \Rightarrow 25^2 = 625 \xrightarrow{\text{opposite}} 526$

4. (A) Father is responsible for the existence of a child similarly, **writer** is responsible for the existence of a book.

5. (B) $TAP \xrightarrow[\text{opposite}]{} PAT$

   $DAM \xrightarrow[\text{opposite}]{} \boxed{MAD}$

6. (A) $(2)^3 = 8 : (3)^2 = 9$

   $(4)^3 = 64 : (5)^2 = 25$

7. (C) In Library, we find books similarly, in banks we find money.

8. (D) As,

   C E G I ⟶ X V T R (opposite, opposite, opposite, opposite)

   Similarly,

   D F H J ⟶ W U S Q (opposite, opposite, opposite, opposite)

9. (B) ABC ⟶ HIJ (+7)

   OPQ ⟶ $\boxed{VWX}$ (+7)

10. (A)

11. (A) We know that Red, Green and Blue are primary colours where as Yellow is not a primary colour.

12. (B) Option (B) comprises only vowels whereas only consonants are present in rest of the options.

13. (A) 216 is a cube of even number whereas rest are cubes of odd number.

   Example- $27 = (3)^3$, $125 = (5)^3$, **$216 = (6)^3$**, $343 = (7)^3$

14. (D) (a) $E \xrightarrow{-3} B \xrightarrow{+2} D$

   (b) $I \xrightarrow{-3} F \xrightarrow{+2} H$

   (c) $U \xrightarrow{-3} R \xrightarrow{+2} T$

   (d) $Y \xrightarrow{-2} W \xrightarrow{+1} X$

15. (C) Except option (C), In other options each letters are increased by 1.

16. (C) Except 481, rest are perfect squares of a number.

17. (C) After observing each options we have,

   (a) $(24 \times 2) - 2 = 46$

   (b) $(32 \times 2) - 2 = 62$

   (c) $(30 \times 2) - 4 = 56$

   (d) $(38 \times 2) - 2 = 74$

   so, option (C) is different.

18. (D) Sum of 1st three numbers results in the fourth whereas option (d) is not satisfying the same.

19. (D)

20. (B)

    [ ] ∩ ∪ (

    4 5 9 0 6

21. (B) The letter 'R' of Doctor is missing in word DECOMPOSITION.

22. (C) The letter 'R' of Pointer is missing in word DISAPPOINTMENT.

23. (A) Unit → Tens → Hundereds → Thousands
    2   4   1   3

    → Lakhs
       5

24. (A) Lucknow → Uttar Pradesh → India → Asia
    1   2   3   5

    → World
       4

25. (B) a $\underline{b}$ b b / a $\underline{b}$ b b / a $\underline{b}$ b b

26. (C) 225 336 447 $\boxed{558}$ 669

   +111 +111 +111 +111

27. (D) Hari > Chaman > Satish

   Vijay > Mukesh > Chaman > Satish.

   Hence, we can say that Satish is smallest among all.

28. (D) $2486 - 85 = 2401$ is a perfect square of 49.

29. (A) Out of 12 questions, 6 questions have one option

   so, Total no. of questions = $6 + (6 \times 2) = 18$

   As, Each questions has 4 sections

   so, Total number of question (including different sections)

   $= 18 \times 4 = 72$

30. (A) As,

   M O B I L E ⟶ Z A M S U M (+13, +12, +11, +10, +9, +8)

   Similarly,

   T U M O R ⟶ G G X Y A (+13, +12, +11, +10, +9)

31. (D) 55 + 66

$\Rightarrow 5 + 5 + 6 + 6 = 22 \Rightarrow 22 \times \dfrac{3}{2} = 33$

22 + 99

$\Rightarrow 2 + 2 + 9 + 9 = 22 \Rightarrow 22 \times \dfrac{3}{2} = 33$

44 + 88

$\Rightarrow 4 + 4 + 8 + 8 = 24 \Rightarrow 24 \times \dfrac{3}{2} = \mathbf{36}$
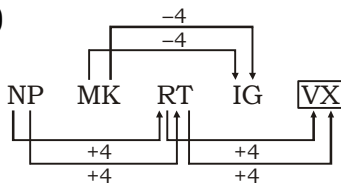
32. (D) From option (D) we have,
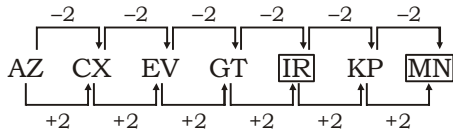$5 > 8 + 4 = 10 < 4 \times 8$
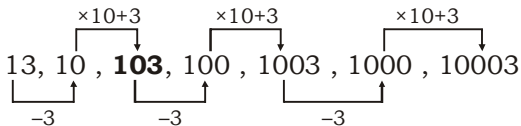$\Rightarrow 5 \times 8 \div 4 < 10 - 4 + 8$
$= 5 \times 2 < 18 - 4 = 10 < 14$

33. (C)

NP　MK　RT　IG　$\boxed{\text{VX}}$

(−4 arrows above, +4 arrows below)

34. (C)

AZ　CX　EV　GT　$\boxed{\text{IR}}$　KP　$\boxed{\text{MN}}$

(−2 arrows above, +2 arrows below)

35. (B)

×10+3 ... −3

13, 10 , **103** , 100 , 1003 , 1000 , 10003

36. (A)
$P \xrightarrow{+2} R \xrightarrow{+2} T \xrightarrow{+2} V \xrightarrow{+2} \boxed{X}$
$3 \xrightarrow{+2} 5 \xrightarrow{+3} 8 \xrightarrow{+4} 12 \xrightarrow{+5} \boxed{17}$
$C \xrightarrow{+3} F \xrightarrow{+3} I \xrightarrow{+3} L \xrightarrow{+3} \boxed{O}$
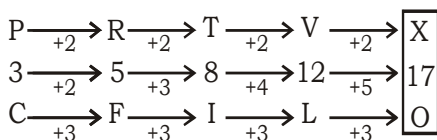
37. (B) 'Sun is a source of light'- The statement doesn't mean that moon is not a source of light and also doesn't mean that light has only one source. So, neither conclusion I nor II follows.

38. (D) $(3)^2 + (5)^2 + (1)^2 = 35$
$(4)^2 + (7)^2 + (2)^2 = 69$
$(6)^2 + (3)^2 + (7)^2 = \mathbf{94}$

39. (D) $(4 + 2)^2 = 36$
$(3 + 7)^2 = 100$
$(2 + 5)^2 = \mathbf{49}$

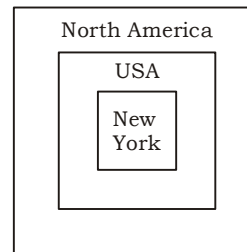40. (A) $\sqrt{16} + \sqrt{25} = 9$

$\sqrt{49} + \sqrt{36} = 13$

$\sqrt{64} + \sqrt{81} = \mathbf{17}$
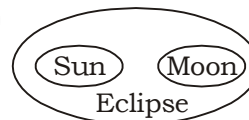
41. (A)
42. (D)
43. (A)

44. (D)

North America / USA / New York

45. (B)

Sun　Moon / Eclipse

46. (C) 24 * 2 * 4 * 3
$\Rightarrow 24 \div 2 = 4 \times 3$
$\Rightarrow 12 = 12$

47. (C)

48. (C) $3 \times 5 \times 7 \Rightarrow 3 + 5 + 7 = 15$
$2 \times 4 \times 6 \Rightarrow 2 + 4 + 6 = 12$
$4 \times 7 \times 9 \Rightarrow 4 + 7 + 9 = 20$

49. (C) As Ramesh and Amit are brothers. Also, Amit is the son of Sushma. So, Ramesh is also the son of Sushma.

50. (C) C $\Rightarrow$ **44**, 53
A $\Rightarrow$ 42, 62, **62**
L $\Rightarrow$ 36, **65**
M $\Rightarrow$ **51**
CALM $\Rightarrow$ 44, 62, 65, 51

54. (A) Dyarchy was introduced as a constitutional reform by Edwin Samuel Montagu (secretary of state for India, 1917-22) and Lord Chelmsford (Viceroy of India, 1916-21). It marked the first introduction of the democratic principle into the executive branch of the British administration of India. Though much criticized, it signified a breakthrough in British Indian government and was the forerunner of India's full provincial autonomy (1935) and independence (1947).

56. (D) The freezing point of water is the temperature at which water changes phase from a liquid to a sold. Under normal conditions, ordinary water freezes at 0^0 C or 32^0 F. The temperature may be lower if super cooling occurs or if there are impurities present in the water which could cause freezing point depression to occur.

57. (B) Gene is a segment of DNA in all living organisms.

58. (C) Vijay Stambh is an imposing structure located in Chittorgarh fort in Rajasthan which was constructed by Mewar king Rana Kumbha in 1442 AD to commemorate his victory over the combine armies of Malwa and Gujarat led by Mahmud Khilji.

59. (D) An artificial ecosystem is one that is created by people. You can create an artificial ecosystem in an aquarium or terrarium. Nathaniel Bagshaw Ward is credited as the inventor of the terrarium, which he accidently created in 1829.

60. (B) Marginal product of an input (factor of production) is the extra output that can be produced by using one more unit of the input (for instance, the difference in output when a firm's labour usage is increased from five to six units), assuming that the quantities of no other inputs to production change. Marginal product, which occasionally goes by the alias marginal physical product (MPP) is the one of the two measures derived from the total product. The other is average product. Marginal product is directly proportional to total product.

64. (D) Work done by the string of the simple pendulum during one complete oscillation is zero. Tension in the string exactly cancels the component parallel to the string. This leaves a net restoring force back toward the equilibrium position as it is equal to zero.

66. (C) Capital markets provide for the buying and selling of long term debt or equity backed securities. When they work well, the capital markets channel the wealth of savers to those who can put it to long term productive use, such as companies or governments making long term investments. Capital Markets allow businesses to raise long-term funds by providing a market for securities, both through debt and equity. Capital markets offer a whole range of complicated products which allow businesses and banks not just to raise capital but also to 'hedge' (protect) against risks.

68. (B) A strait is a narrow, typically navigable channel of water that connects two larger, navigable bodies of water. It commonly refers to a channel of water that lies between two land masses, but it may also refer to a navigable channel through a body of water that is otherwise not navigable, for example because it is too shallow, or because it contains an un-navigable reef or archipelago.

70. (A) According to the Special Theory of Relativity, the mass of a moving object measures more as its velocity increases until, at the speed of light, it becomes infinite. This is because as an object gains speed, it gains more (kinetic) energy.

72. (C) The Public Accounts Committee (PAC) is a committee of selected members of Parliament, constituted by the Parliament of India for the auditing of the expenditure of the government of India. Its chief function is to examine the audit report of Comptroller and Auditor General (CAG) after which it is laid in the Parliament CAG to assist the committee during the course in investigation. None of the 22 members shall be a minister in the government.

73. (B) The Indian Tri-colour was first unfurled on 26 January, 1930 at Lahore, by Pandit Jawaharlal Nehru. It was on the same day that the Indian National Congress declared 26th January as Independence Day or as the day for Poorna Swaraj (Complete Independence) which occurred 20 years later.

76. (B) United States is the third largest country in terms of population after China and India.

78. (A) The sewage obtained from water closets and urinals in known Sanitary waste.

80. (A) Higher concentration of Nitrogen and Phosphorus causes Eutrophication.

82. (A) The Indian Councils Act 1909, commonly known as parliament of the United Kingdom that brought about a limited increase in the involvement of Indians in the governance of British India.

84. (B) If the President is satisfied on the basis of the report of the Governor of the concerned state or from other sources that the governance in a state cannot be carried out according to the provisions in the Constitution, he/she can declare a state of emergency in the state. Such a emergency must be approved by the Parliament within a period of 2 months. Under Article 356 of the Indian Constitution, it can be imposed from six months to a maximum period of three years with repeated parliamentary approval after every six months.

87. (C) Composite volcanoes are most commonly found in island arcs. Most of them are found scattered on the islands adjoining the Pacific Ring of Fire where about 75% of Earth's volcanoes are found. It is a region of high volcanic and seismic activity that surrounds the majority of the Pacific Ocean Basin.

89. (B) The Constitution of India mentions certain conditions for a person to be eligible for being a judge of the Supreme court of India. In order to be appointed as a Judge of

the Supreme Court, a person must be a citizen of India and must have been for at least five years, a Judge of a High Court or of two or more such Courts in succession, or an advocate of a high Court or of two or more such Courts in succession for at least 10 years or he must be a distinguished jurist in the opinion of the President.

92. **(C)** The main source of carbon monoxide is transportation.

94. **(B)** India is called a mixed economy because there is both private owned enterprises and state owned enterprises and the government does not intervene on the decisions of enterprises owned by individuals except to govern law and to correct market failures. The product market in this case is determined by the market demand and market supply rather than the decisions of the policy makers.

95. **(B)** Mushroom cultivation has been found to coincide with decrease of incidents of breast cancer. Spent residues after cultivation could be a better source of biologically pre-treated substrates for biogas production and agricultural waste recycling can be can be achieved through controlled cultivation of mushrooms.

96. **(A)** Ozone layer serves as a protective shield against harmful solar ultraviolet radiation.

98. **(D)** Water vapour transpires constantly through pores (stomata) in the surface of plant's leaves.

101. **(A)** Let the numbers are a and b.
$\therefore b^3 - a^2 = b^2 \Rightarrow b^3 = a^2 + b^2$
$a.b = 300$ and $(a+b)^2 = 1600$
$\Rightarrow a^2 + b^2 + 2ab = 1600$
$\Rightarrow b^3 + 2 \times 300 = 1600$
$\Rightarrow b^3 = 1600 - 600 = 1000 \Rightarrow b = 10$
$\Rightarrow ab = 300 \Rightarrow a \times 10 = 300 \Rightarrow a = 30$
$\Rightarrow$ numbers $a, b = 30, 10$

102. **(C)** $x = a(b-c) \Rightarrow \dfrac{x}{a} = (b-c)$

$y = b(c-a) \Rightarrow \dfrac{y}{b} = (c-a)$

$z = c(a-b) \Rightarrow \dfrac{z}{c} = (a-b)$

$\therefore \left(\dfrac{x}{a}\right)^3 + \left(\dfrac{y}{b}\right)^3 + \left(\dfrac{z}{c}\right)^3$

$= (b-c)^3 + (c-a)^3 + (a-b)^3$
$\qquad\qquad [\because b-c+c-a+a-b = 0]$
$= 3 . (b-c) . (c-a) . (a-b)$

$\Rightarrow 3 \cdot \dfrac{x}{a} \cdot \dfrac{y}{b} \cdot \dfrac{z}{c} = \dfrac{3xyz}{abc}$

103. **(A)** Let the side of regular polygon $= x$

$\Rightarrow$ each interior angle $= \dfrac{(2n-4) \times 90°}{n}$

ATQ,

$\dfrac{(2n-4) \times 90°}{n} = 2 \times 90° \times \dfrac{4}{5}$

$\Rightarrow n = 10$

104. **(C)** A + B + C can fill a cistern in 6 hrs ...(i)

$\therefore$ A + B + C can fill $\dfrac{1}{3}$ of cistern in 2 hrs.

Now, $1 - \dfrac{1}{3} = \dfrac{2}{3}$ of cistern is filled up by A + B in 7 hrs.

$\therefore$ A + B can fill up the whole cistern in

$\dfrac{7 \times 3}{2} = \dfrac{21}{2}$ hrs $\qquad\qquad$ ...(ii)

From (i) and (ii), C can fill the cistern in

$= \dfrac{6 \times \dfrac{21}{2}}{\dfrac{21}{2} - 6} = \dfrac{6 \times 21}{9} = 14$ hrs.

105. **(C)** Distance travelled by Ravi
$= (60 - 12)$ km
$= 48$ km
and distance travelled by Ajay
$= (60 + 12)$ km
$= 72$ km
Difference between the distance travelled by them
$= (72 - 48)$ km
$= 24$ km

Time required by Ravi $= \dfrac{24}{4}$ hr $= 6$ hr
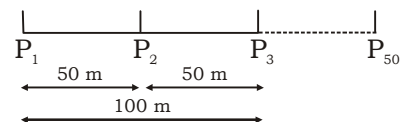
Speed of Ravi $= \dfrac{48}{6}$ km/hr

$= 8$ km/hr

106. **(C)** Speed = 45 km/hr
Time = 4 hr
Distance = Speed × time
$= 45 \times 4 = 180$ km
$= 180 \times 1000 = 1,80,000$ m

Here P = Pole
i.e. in 100 m we have 3 poles so,

Required No. of poles = $\dfrac{180000}{50}$ + 1

= 3600 + 1 = 3601

107. (A) $\dfrac{P}{F} = \dfrac{25x}{4x}$

Total = $29x$

5 more had appeared then the number of students would have been $29x + 5$

ATQ,

$\dfrac{29x + 5}{4x - 2} = \dfrac{25x}{3x}$

$87x + 15 = 100x - 50$

$65 = 13x$

$x = 5$

Total no. of appeared students
= 29 × 5 = 145

108. (C) The existing solution has 40% sugar. And sugar is to be mixed, so the other solution has 100% sugar. So by alligation method:

```
        40%              100%
           \            /
            \          /
               50%
            /          \
           /            \
        50%              10%
         |                |
300 gm ←×60  5    :    1  ×60→ 60 gm
```

∴ The two mixture should be added in the ratio 5 : 1

$5x = 300$ gms

Therefore, required sugar

= $\dfrac{300}{5}$ = 60 gms

109. (D) Let the number be x.
Then ATQ,

$\dfrac{40}{100} \times \dfrac{60}{100} \times \dfrac{3}{5} \times x = 504$

$x = 3500$

Required number

= $\dfrac{25}{100} \times \dfrac{2}{5} \times 3500 = 350$

110. (A) In right angled ΔABC

∠B = 90, BC = x, AB = $x + 2$, AC = $2\sqrt{5}$

∴ AB² + BC² = AC²

∴ $(x + 2)^2 + x^2 = \left(2\sqrt{5}\right)^2$

∴ $x^2 + 4 + 4x + x^2 = 20$

⇒ $2x^2 + 4x = 16$

⇒ $x^2 + 2x = 8 \Rightarrow x^2 + 2x - 8 = 0$

⇒ $x^2 + 4x - 2x - 8 = 0 \Rightarrow (x + 4)(x - 2) = 0$

⇒ $x + 4 \neq 0$ but $x - 2 = 0 \Rightarrow x = 2$

$\cos^2 A = \left(\dfrac{x + 2}{2\sqrt{5}}\right)^2 = \left(\dfrac{2 + 2}{2\sqrt{5}}\right)^2 = \dfrac{16}{20} = \dfrac{4}{5}$

$\cos^2 C = \left(\dfrac{x}{2\sqrt{5}}\right)^2 = \left(\dfrac{2}{2\sqrt{5}}\right)^2 = \dfrac{1}{5}$

∴ $\cos^2 A - \cos^2 C = \dfrac{4}{5} - \dfrac{1}{5} = \dfrac{3}{5}$

111. (C) Diameter of circle = breadth of park = 28m.

∴ radius of circle = $\dfrac{28}{2}$ = 14m.

∴ area of circle = $\pi r^2 = \dfrac{22}{7} \times 14 \times 14 = 616\text{m}^2$

and area of rectangle = 40 × 28 = 1120m²

∴ required area = 1120 – 616 = 504 m²

112. (C) Short trick:-

$\dfrac{S_1}{S_2} = \sqrt{\dfrac{t_2}{t_1}}$

Where S_2 = 56 km/hr, t_1 = 64 minutes, t_2 = 100 minutes

⇒ $\dfrac{S_1}{56} = \sqrt{\dfrac{100}{64}}$

⇒ $S_1 = 56 \times \dfrac{10}{8}$ = 70 km/hr

113. (C) Installment (I) = ₹ 1210, R = 10%
We know (for two installment)

$I = \dfrac{\text{Principle}}{\left(\dfrac{100}{100 + R}\right) + \left(\dfrac{100}{100 + R}\right)^2}$

⇒ $1210 = \dfrac{\text{Principle}}{\dfrac{10}{11} + \dfrac{100}{121}}$

⇒ Principle = $1210 \times \left(\dfrac{110 + 100}{121}\right)$

= $\dfrac{1210 \times 210}{121}$

Principle = ₹ 2100

114. (A) Fresh fruit has 68% water, so 32% is fruit content. Dry fruit has 20% water, so 80% is fruit content.

Let weight of dry fruit is y kg.

ATQ,

$\therefore \dfrac{32}{100} \times 100 = \dfrac{80}{100} \times y$

$\Rightarrow y = 40$ gm

115. (D) He gives after discount = $\dfrac{80 \times 120}{100} = 96$ cms

Promise is that he will provides 96 cm but he gives = 80 cm

P = 96 – 80 = 16 cms

$\therefore$ P% = $\dfrac{16 \times 100}{80}$ = 20%

116. (B) $t = \dfrac{1}{2}$ yr., r = 4% pa

S.I. = ₹ 150

Here, $150 = \dfrac{P \times 4}{100} \times \dfrac{1}{2}$

$\therefore$ P = 150 × 25 × 2 = ₹ 7500

117. (C) Let distance = x km and speed = y km/h

Then ATQ,

$\dfrac{x}{y} - \dfrac{x}{y+3} = \dfrac{40}{60}$ ...(i)

$\dfrac{x}{y-2} - \dfrac{x}{y} = \dfrac{40}{60}$ ...(ii)

By equation (i), we have

$9x = 2y(y-3)$ ...(iii)

By equation (ii), we have

$6x = 2y(y-2)$ ...(iv)

by solving equation (iii) and (iv) we have

$x = 40$ km and $y = 12$ km/hr

118. (C) $x + \dfrac{1}{x} = 2 \Rightarrow \left(x + \dfrac{1}{x}\right)^2 = 2^2$

$\therefore x^2 + \dfrac{1}{x^2} + 2 = 4 \Rightarrow x^2 + \dfrac{1}{x^2} = 2$

$\Rightarrow \left(x^2 + \dfrac{1}{x^2}\right)^3 = 2^3$

$\Rightarrow (x^2)^3 + \left(\dfrac{1}{x^2}\right)^3 + 3.x^2.\dfrac{1}{x^2}\left(x^2 + \dfrac{1}{x^2}\right) = 8$

$\Rightarrow x^6 + \dfrac{1}{x^6} + 3 \times 1 \times 2 = 8$

$\Rightarrow x^6 + \dfrac{1}{x^6} = 8 - 6 = 2$

119. (A) Area of two paths = 10 × (150 + 120 – 10)
= 10 × 260 = 2600m²
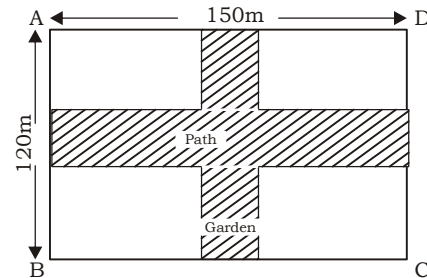
Cost of graveling the path = 2600 × 2
= ₹ 5200

120. (D) $x = \sqrt{11} + \sqrt{5}$

$\Rightarrow x^2 = 11 + 5 + 2\sqrt{55} = 16 + 2\sqrt{55}$

$y = \sqrt{10} + \sqrt{6}$

$\Rightarrow y^2 = 10 + 6 + 2\sqrt{60} = 16 + 2\sqrt{60}$

$z = \sqrt{3} + \sqrt{13}$

$\Rightarrow z^2 = 3 + 13 + 2\sqrt{39} = 16 + 2\sqrt{39}$

$\Rightarrow y > x > z$

121. (B) Sum of angles of regular pentagon
= $(2n - 4) \times 90°$
= $(2 \times 5 - 4) \times 90° = 540°$

$\Rightarrow$ each angle of regular pentagon

= $\dfrac{540°}{5} = 108°$

sum of angle of regular hexagon
= $(2n - 4) \times 90°$
= $(2 \times 6 - 4) \times 90° = 720°$

$\Rightarrow$ each angle of regular hexagon

= $\dfrac{720°}{6} = 120°$

$\Rightarrow$ ratio between each angle
= 108 : 120 = 9 : 10

122. (D) $\because$ Slant height $(l) = \sqrt{h^2 + r^2}$

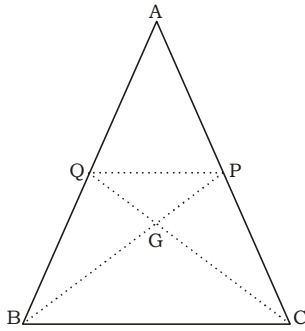$\Rightarrow$ Slant surface area = $\pi r l = \pi r . \sqrt{h^2 + r^2}$

and volume = $\dfrac{1}{3}\pi r^2 h$

$\Rightarrow \dfrac{1}{3}\pi r^2 h = \pi r \sqrt{h^2 + r^2} \Rightarrow \dfrac{rh}{3} = \sqrt{h^2 + r^2}$

$\Rightarrow \left(\dfrac{rh}{3}\right)^2 = h^2 + r^2 \Rightarrow \dfrac{h^2 + r^2}{h^2 r^2} = \dfrac{1}{9}$

$\Rightarrow \dfrac{1}{r^2} + \dfrac{1}{h^2} = \dfrac{1}{9}$ units

123. (B)

In the figure BP and CQ are medians meeting at point G.

$\Rightarrow \Delta BGC = \dfrac{1}{3} \times \Delta ABC$

$\because QP = \dfrac{BC}{2}$

$\Rightarrow \Delta PGQ : \Delta BGC = 1 : 4$

$\Rightarrow \Delta PGQ : \dfrac{1}{3} \Delta ABC = 1 : 4$

$\Rightarrow \Delta PGQ : \Delta ABC = 1 : 12$

124. (C) Required run rate $= \left(\dfrac{300 - (2.5 \times 15)}{35} \right)$

$= \dfrac{262.5}{35} = 7.5$

125. (C) Given series $1 + 3 + 5 + 7 + \ldots + 99$
Number of terms between 1 to 99

$= \dfrac{1 + 99}{2} = 50$

So, sum of 50 terms/odd numbers
$= 50^2 = 2500$

126. (B) Let Rate = R%, then time = R years
P = ₹ 5,00,000, S.I = ₹ 80,000

$80,000 = \dfrac{5,00,000 \times R \times R}{100}$

$\Rightarrow R^2 = 16$
$\Rightarrow R = 4\%$

127. (B)
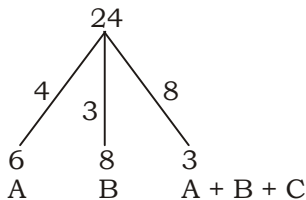
C's share $= 3 \times \dfrac{8 - (4 + 3)}{24} \times 32000$

$= ₹ 4000$

128. (B) HCF of 25.97 & 16.43 = 0.53

Required number of tiles $= \dfrac{25.97 \times 16.43}{0.53 \times 0.53}$

$= 1519$

129. (B) $\left[\left\{ \sqrt{\left(\left(\sqrt{5} \right)^{\frac{1}{2}} \right)^{\frac{3}{8}}} \right\}^{32} \right] - \left[\left\{ \sqrt{\left((5)^{\frac{1}{8}} \right)^{\frac{1}{2}}} \right\}^{16} \right]$

$= \left[\left\{ 5^{\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}} \right\}^{\frac{3}{8}} \right]^{32} - \left[5^{\frac{1}{8} \times \frac{1}{2} \times \frac{1}{2}} \right]^{16}$
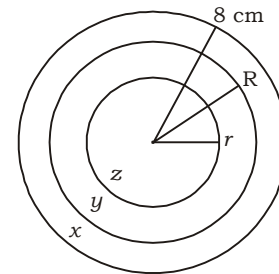
$= \left[5^{\frac{1}{8} \times \frac{3}{8} \times 32} \right] - \left[5^{\frac{1}{32} \times 16} \right]$

$= 5^{\frac{3}{2}} - 5^{\frac{1}{2}} = 5\sqrt{5} - \sqrt{5}$

130. (C) Area of $z = \dfrac{\pi 8^2}{3}$

$\therefore \pi r^2 = \dfrac{\pi . 8^2}{3} \Rightarrow r^2 = \dfrac{8^2}{3}$

$\therefore r = \dfrac{8}{\sqrt{3}}$

area of $y = \dfrac{\pi 8^2}{3}$

$\therefore \pi R^2 - \pi r^2 = \dfrac{\pi 8^2}{3}$

$R^2 - r^2 = \dfrac{8^2}{3}$

$\therefore R^2 - \dfrac{8^2}{3} = \dfrac{8^2}{3}$

$\Rightarrow R^2 = \dfrac{8^2}{3} + \dfrac{8^2}{3} = \dfrac{64}{3} + \dfrac{64}{3} = \dfrac{128}{3}$

$\therefore R = \sqrt{\dfrac{128}{3}} = \dfrac{8\sqrt{2}}{\sqrt{3}}$

$\therefore$ The ratio of radii = 8 : R : r

$= 8 : \dfrac{8\sqrt{2}}{\sqrt{3}} : \dfrac{8}{\sqrt{3}}$

$= 1 : \dfrac{\sqrt{2}}{\sqrt{3}} : \dfrac{1}{\sqrt{3}} = \sqrt{3} : \sqrt{2} : 1$

$\therefore$ The ratio in acending order = $1 : \sqrt{2} : \sqrt{3}$

131. (B) $\dfrac{\cos\theta}{1-\sin\theta} + \dfrac{\cos\theta}{1+\sin\theta} = 4$

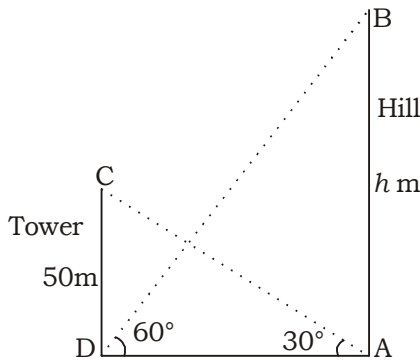$\dfrac{\cos\theta\,(1+\sin\theta+1-\sin\theta)}{1+\sin^2\theta} = 4$

$\dfrac{\cos\theta\times 2}{\cos^2\theta} = 4 \Rightarrow \dfrac{2}{\cos\theta} = \dfrac{4}{1}$

$4\cos\theta = 2 \Rightarrow \cos\theta = \dfrac{1}{2} = \cos 60°$

$\Rightarrow \cos\theta = \cos 60° \Rightarrow \theta = 60°$

132. (B) In the figure CD is tower and AB is hill on the same plane
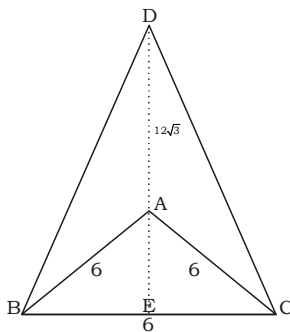
In ΔADC, $\tan 30° = \dfrac{CD}{AD}$

$\therefore \dfrac{1}{\sqrt{3}} = \dfrac{50}{AD} \Rightarrow AD = 50\sqrt{3}$ m

In ΔABD, $\tan 60° = \dfrac{AB}{AD}$

$\therefore \sqrt{3} = \dfrac{h}{50\sqrt{3}} \Rightarrow h = \sqrt{3}\times 50\sqrt{3} = 150$m

$\therefore$ height of the hill AB = 150 m.

133. (A)

In the figure, equilateral traingle ABC is the base of the pyramid.
Where AB = BC = CA = 6 cm
$\Rightarrow$ Volume of the pyramid

$= \dfrac{1}{3}\times$ base area $\times$ height

$= \dfrac{1}{3}\times\dfrac{\sqrt{3}}{4}\times 6\times 6\times 12\sqrt{3} = 108$ cm³

134. (D) $2\sin\alpha + 15\cos^2\alpha = 7$

$\Rightarrow 2\sin\alpha + 15\,(1-\sin^2\alpha) = 7$

$\therefore 2\sin\alpha + 15 - 15\sin^2\alpha = 7$

$\Rightarrow 15\sin^2\alpha - 2\sin\alpha - 8 = 0$

$\therefore 15\sin^2\alpha - 12\sin\alpha + 10\sin\alpha - 8 = 0$

$\therefore 3\sin\alpha\,(5\sin\alpha - 4) + 2(5\sin\alpha - 4) = 0$

$\therefore (5\sin\alpha - 4)\,(3\sin\alpha + 2) = 0$

$\therefore 3\sin\alpha + 2 \neq 0$ but $5\sin\alpha - 4 = 0$

$\therefore 5\sin\alpha = 4 \Rightarrow \sin\alpha = \dfrac{4}{5} = \dfrac{\text{Perpendicular}}{\text{hypotenuse}}$

$\therefore$ base² = hypotenuse² − perpendicular²
$= 25 - 16 = 9$

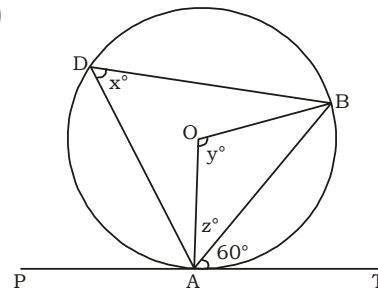$\therefore \cot\alpha = \dfrac{\text{base}}{\text{Perpendicular}} = \dfrac{3}{4}$

135. (A) $a + \dfrac{1}{a} = 1 \Rightarrow \left(a+\dfrac{1}{a}\right)^3 = 1^3$

$\Rightarrow a^3 + \dfrac{1}{a^3} + 3\times a\times\dfrac{1}{a}\times\left(a+\dfrac{1}{a}\right) = 1$

$\Rightarrow a^3 + \dfrac{1}{a^3} + 3 = 1 \Rightarrow a^3 + \dfrac{1}{a^3} = -2$

$\Rightarrow a^3 + \dfrac{1}{a^3} = -1 - 1 \Rightarrow a^3 = -1$

136. (C)

$\because x°$ is a angle in the alternative segment for $\angle$BAT
$\Rightarrow \angle$BAT $= x = 60°$
$\because y°$ is angle at centre and $x°$ is angle in remaining arc
$\Rightarrow y° = x\times 2 = 120°$
$\because$ in ΔOAB, $\angle$OBA $= \angle$OAB $= z°$
$\Rightarrow y + z + z = 180°$
$\Rightarrow 120° + 2z = 180°$
$\Rightarrow z = 30°$

137. (A)

$$5m + 5w = \frac{660}{3} = 220$$

$\times 2$ $\quad 10m + 20w = \frac{3500}{5} = 700 \qquad …(ii)$

$$10m + 10w = 220 \times 2 = 440 \quad …(i)$$

(Substracting (i) from (ii))
$$10w = 700 - 440 = 260$$

$\therefore 1w = \dfrac{260}{10} = ₹\ 26$

Now, $5m + 5w = 220$
$5m + 5 \times 26 = 220$

$\therefore 1m = \dfrac{220 - 130}{5} = \dfrac{90}{5} = ₹\ 18$

Now, the required number of days

$= \dfrac{1060}{(6 \times 18 + 4 \times 26)} = \dfrac{1060}{212} = 5$

138. (B) Let B join the business for x months.
ATQ,
$450 \times 12 : 300 \times x = 2 : 1$

$\Rightarrow \dfrac{5400}{300x} = \dfrac{2}{1}$

$\Rightarrow x = 9$ months
Hence, after $12 - 9 = 3$ months B joins the business.

139. (A) $x + \dfrac{1}{x} = 4$

$\Rightarrow \left(x + \dfrac{1}{x}\right)^2 = \left(x - \dfrac{1}{x}\right)^2 + 4$

$\Rightarrow \left(x - \dfrac{1}{x}\right)^2 = 12$
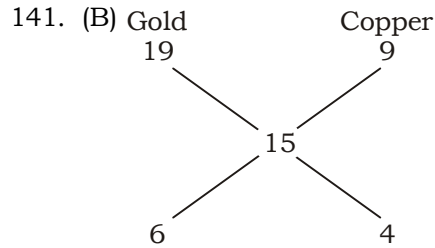
$\Rightarrow x - \dfrac{1}{x} = 2\sqrt{3}$

140. (B) Let the distances be $2x$, $3x$ and $5x$ km covered by Priyanka. Then,

$\text{Speed} = \dfrac{\text{Distance}}{\text{Time}}$

Required average speed

$= \dfrac{2x + 3x + 5x}{\dfrac{2x}{10} + \dfrac{3x}{15} + \dfrac{5x}{20}} = \dfrac{10x}{39x} \times 60$

$= \dfrac{200}{13} = 15\dfrac{5}{13}$ km/hr

141. (B)

Gold		Copper
19		9
	15	
6		4

$\therefore$ Gold : Copper $= 6 : 4 = 3 : 2$

142. (A) Let the CP of first article $= x$
then the CP of second article $= 7500 - x$
ATQ,

SP of first article $= \dfrac{6x}{5}$

SP of second article $= \dfrac{7500 - x}{2}$

Given, $x = \dfrac{7500 - x}{2}$

$\Rightarrow x = 2500$
i.e. CP of first article $= 2500$
SP of first article will be $= 3000$
i.e. Profit $= ₹\ 500$
and
CP of second article $= 7500 - 2500 = 5000$
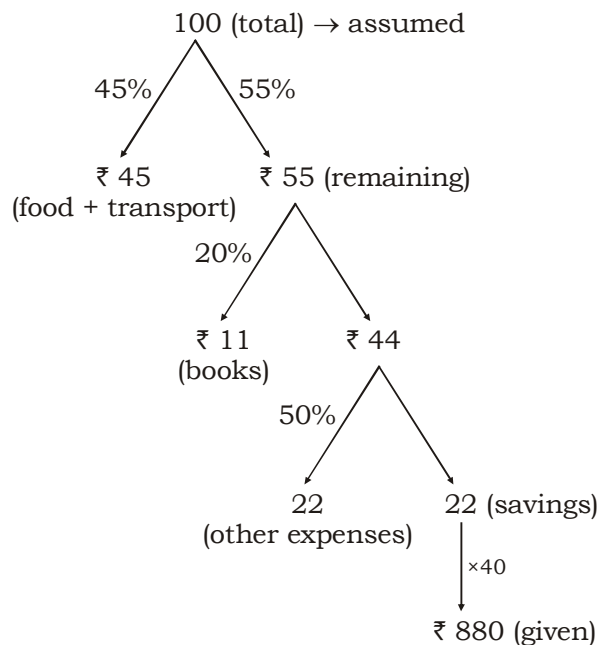SP of second article will be $= 2500$
i.e. Loss $= ₹\ 2500$
So, over all loss $= ₹\ 2000$

143. (D) Average of 48 numbers $= 0$
$\Rightarrow$ Sum of 48 numbers $= 0 \times 48 = 0$
It is quite possible that 47 of these numbers may be positive & if their sum is R then 48th number is $(-R)$.

144. (B)

100 (total) $\rightarrow$ assumed

45% $\diagup$ $\diagdown$ 55%

₹ 45 $\qquad$ ₹ 55 (remaining)
(food + transport)

20% $\diagup$

₹ 11 $\qquad$ ₹ 44
(books)

50% $\diagup$

22 $\qquad\qquad$ 22 (savings)
(other expenses) $\qquad\qquad$ $\downarrow$ ×40

₹ 880 (given)

$\Rightarrow$ Income $= 100 \times 40 = ₹\ 4000$

145. (A) Descreased angles be $2x°, 3x°, 5x°$

$\therefore$ Real angles would be $(2x + 15)°, (3x + 15)°, (5x + 15)°$

$\therefore 2x + 15 + 3x + 15 + 5x + 15 = 180$

$\therefore 10x + 45 = 180 \Rightarrow 10x = 135 \Rightarrow x = \dfrac{135}{10}$

$\therefore$ Gretest angle = $(5x + 15)°$

$= \left(5 \times \dfrac{135}{10} + 15\right)^0 = \left(\dfrac{135}{2} + 15\right)^0 = \left(\dfrac{165}{2}\right)^0$

$\therefore$ The radian measure = $\left(\dfrac{165}{2}\right)^0 \times \dfrac{\pi}{180°}$

$= \dfrac{11}{24}\pi$

146. (C) Total number of people in all six cities

$= \dfrac{10,000 \times 100}{20} = 50,000$

Total population of city A

$= 50,000 \times \dfrac{20}{100} = 10,000$

Number of females in city A = 50% = 5000

147. (B) $Total_B = \dfrac{50,000 \times 10}{100} = 5000$

Males are 30%, so females
= 100 – 30 = 70%
Difference = 70 – 30 = 40%

Required answer = $\dfrac{5000 \times 40}{100} = 2000$

148. (B) $Female_E = 50,000 \times \dfrac{10}{100} \times \left(\dfrac{100 - 60}{100}\right)$

$= 5000 \times \dfrac{2}{5} = 2000$

$Female_F = 50,000 \times \dfrac{20}{100} \left(\dfrac{100 - 50}{100}\right)$

$= 10,000 \times \dfrac{1}{2} = 5000$

Required % = $\dfrac{5000}{2000} \times 100 = 250\%$

149. (A) Total males = $\dfrac{50,000}{100 \times 100}${20 × 50 + 10 × 30 + 25 × 20 + 15 × 40 + 10 × 60 + 20 × 50}
= 5{1000 + 300 + 500 + 600 + 600 + 1000}
= 5 × 4000 = 20,000

150. (D) Total population in all six cities = 50,000
Total females in all six cities
= 50,000 – 20,000 = 30,000

Required % = $\dfrac{30,000}{50,000} \times 100 = 3 \times 20 = 60\%$

151. (B) Use 'is' after 'Priya', as the sentence is not interrogative

152. (B) Change 'awaiting' into 'waiting'.

153. (C) Add 'more' before 'amusing'. Both 'more amusing' and 'cleverer' must be in the same degree because both the adjectives are joined by a conjunction.

154. (C) Add 'to' after 'go', as there is a destination already specified.

155. (B) 'Collision' is an appropriate word, which means 'a crash between two or more things'. 'Collusion' means 'secret cooperation for an illegal or dishonest purpose'.

160. (B) Since the sentence is positive question tag must be negative and I'll get late is the main sentence.

176. (B) Going by the sense of the sentence the following sentence should be in passive form (i.e., ... they had been cheated.) as 'they had cheated' means 'they had performed the act of cheating', which gives wrong meaning to the entire sentence.

178. (A) Since, the sentence is in passive form and 'Technology' in this sentence acts as an object to be fed here.

179. (B) 'Beware' is a verb which means 'to be careful'. 'Aware' is an adjective which means 'knowing and understanding'.

180. (B)

185. (A), (C) & (D) are correct as all mean hopelessness.

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Absolve	To state formally that somebody is not guilty or responsible for something	दोष मुक्त करना
Acoustics	Of or relating to sound	ध्वनि संबंधित
Agnostic	A person who believes that it is not possible to know whether God exists or not	अनीश्वरवादी
Agronomy	The science of soil management and crop production	कृषि विज्ञान
Allegory	A story in which the characters and events are symbols that stand for ideas about human life or for a political or historical situation	रूपक कथा, दृष्टांत
Applaud	To express praise for somebody/something because you approve of them or it	सराहना करना
Belligerent	Unfriendly and Aggressive	लड़ाकू
Collusion	Secret agreement especially in order to do something dishonest or to trick people	साँठ-गाँठ, मिली भगत
Comely	Pleasing in appearance : pretty or attractive	सुहावना, मनोरम
Corroborate	To provide evidence or information that supports a statement, theory, etc	पुष्टि करना
Crestfallen	Sad and disappointed because you have failed and you did not expect to	हतोत्साहित, निराश
Despair	The feeling of having lost all hope	निराशा
Despondency	A feeling of being sad and without much hope	निराशा, अवसाद
Elation	A feeling of great happiness and excitement	प्रफुल्लता, उत्साह
Fancies	To want something or want to do something	चाह, इच्छा
Fastidious	Very attentive to and concerned about accuracy and detail	तुनक मिजाज, नकचढ़ा
Hedonist	A person who believes that the pursuit of pleasure is the most important thing in life	सुखवादी
Iconolast	A person who criticizes popular beliefs or established customs and ideas	परम्परा तोड़ने वाला
Indignant	Angered at something unjust or wrong	क्रोधित
Notion	An idea, a belief or an understanding of something	धारणा
Obstruct	To slow or block the movement, progress, or action of (something or someone)	बाधा डालना, रोकना
Paronym	A word that is a derivative of another and has a related meaning	व्युत्पन्न शब्द
Peculiarity	A strange or unusual feature or habit	विलक्षणता, विशेषलक्षण
Philanderer	A person who readily or frequently enters into casual sexual relationships	व्यभिचारी
Pragmatic	Solving problems in a practical and sensible way rather than by having fixed ideas or theories	व्यावहारिक
Reinforce	Make stronger	सुदृढ़ बनाना
Second	To give support or one's approval to	समर्थन करना
Sojourn	A temporary stay	थोड़े समय के लिए कहीं पर ठहरना
Stoic	One who is indefferent to pleasure and pain	तटस्थ:
Triumphant	Showing great satisfaction or joy about a victory or success	सफलता का हर्ष मनाने वाला प्रफुल्लित
Urges	To recommend something strongly	जोर देकर समर्थन करना

SSC MOCK TEST - 35 (ANSWER KEY)

1. (C)	26. (C)	51. (A)	76. (B)	101. (A)	126. (B)	151. (B)	176. (B)
2. (C)	27. (D)	52. (B)	77. (B)	102. (C)	127. (B)	152. (B)	177. (A)
3. (A)	28. (D)	53. (D)	78. (A)	103. (A)	128. (B)	153. (C)	178. (A)
4. (A)	29. (A)	54. (A)	79. (B)	104. (C)	129. (B)	154. (C)	179. (B)
5. (B)	30. (A)	55. (A)	80. (A)	105. (C)	130. (C)	155. (B)	180. (B)
6. (A)	31. (D)	56. (D)	81. (C)	106. (C)	131. (B)	156. (A)	181. (A)
7. (C)	32. (D)	57. (B)	82. (A)	107. (A)	132. (B)	157. (C)	182. (B)
8. (D)	33. (C)	58. (C)	83. (C)	108. (C)	133. (A)	158. (A)	183. (B)
9. (B)	34. (C)	59. (D)	84. (B)	109. (D)	134. (D)	159. (C)	184. (C)
10. (A)	35. (B)	60. (B)	85. (D)	110. (A)	135. (A)	160. (B)	185. (*)
11. (A)	36. (A)	61. (C)	86. (C)	111. (C)	136. (C)	161. (B)	186. (A)
12. (B)	37. (B)	62. (A)	87. (C)	112. (C)	137. (A)	162. (C)	187. (A)
13. (A)	38. (D)	63. (C)	88. (A)	113. (C)	138. (B)	163. (C)	188. (C)
14. (D)	39. (D)	64. (D)	89. (B)	114. (A)	139. (A)	164. (B)	189. (A)
15. (C)	40. (A)	65. (A)	90. (A)	115. (D)	140. (B)	165. (D)	190. (B)
16. (C)	41. (A)	66. (C)	91. (C)	116. (B)	141. (B)	166. (A)	191. (D)
17. (C)	42. (D)	67. (B)	92. (C)	117. (C)	142. (A)	167. (B)	192. (C)
18. (D)	43. (A)	68. (B)	93. (B)	118. (C)	143. (D)	168. (B)	193. (C)
19. (D)	44. (D)	69. (C)	94. (B)	119. (A)	144. (B)	169. (B)	194. (A)
20. (B)	45. (B)	70. (A)	95. (B)	120. (D)	145. (A)	170. (B)	195. (A)
21. (B)	46. (C)	71. (C)	96. (A)	121. (B)	146. (C)	171. (C)	196. (D)
22. (C)	47. (C)	72. (C)	97. (B)	122. (D)	147. (B)	172. (D)	197. (A)
23. (A)	48. (C)	73. (B)	98. (D)	123. (B)	148. (B)	173. (D)	198. (A)
24. (A)	49. (C)	74. (C)	99. (B)	124. (C)	149. (A)	174. (C)	199. (B)
25. (B)	50. (C)	75. (B)	100. (C)	125. (C)	150. (D)	175. (A)	200. (C)

Mock Test 34 (Corrections)

21. (A) Solution given is correct. Read the correct option as (A).

28. (*) Solution given is correct. The correct order is 643125.

53. (B) 59. (B) 67. (A) 75. (B) 87. (C)

126. (*) Both (A) and (D) are correct.

137. (A) Required ratio = $\dfrac{(50-56)+\dfrac{40}{100}\times 50}{56}$

$= \dfrac{-6+20}{56} = \dfrac{14}{56} = \dfrac{1}{4} = 1:4$

151. (C) Replace 'his' by 'her'

152. (*) 'The company in not doing well'. Read 'in' as 'is'. Given explanation was correct.

Note:- If you face any problem regarding result or marks scored, please contact 9313111777

Note:- If your opinion differs regarding any answer, please message the mock test and question number to 8860330003