

SSC MOCK TEST - 285 (SOLUTION)

1. (D) As,

$$\begin{array}{ccc} 1 & 6 & 5 \\ \downarrow & \downarrow & \downarrow \\ 1^2 + 6^2 - 5 \times 2 = 37 - 10 = 27 \end{array}$$

Similarly,

$$\begin{array}{ccc} 2 & 5 & 2 \\ \downarrow & \downarrow & \downarrow \\ (2)^2 + (5)^2 - 2 \times 2 = 29 - 4 = 25 \end{array}$$

2. (A) The list of food items is called menu. Similarly, the list of books are called catalogue.

3. (C) As,

P $\xrightarrow{\text{opposite}}$ K $\xrightarrow{-1}$ J

M $\xrightarrow{\text{opposite}}$ N $\xrightarrow{-1}$ M

T $\xrightarrow{\text{opposite}}$ G $\xrightarrow{-1}$ F

K $\xrightarrow{\text{opposite}}$ P $\xrightarrow{-1}$ O

Similarly,

V $\xrightarrow{\text{opposite}}$ E $\xrightarrow{-1}$ D

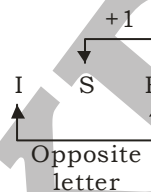
W $\xrightarrow{\text{opposite}}$ D $\xrightarrow{-1}$ C

R $\xrightarrow{\text{opposite}}$ I $\xrightarrow{-1}$ H

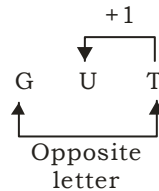
A $\xrightarrow{\text{opposite}}$ Z $\xrightarrow{-1}$ Y

4. (D) Riboflavin, Biotin and Ascorbic acid is chemical name of vitamin B₂, B₇ and vitamin C respectively, while ferrum is chemical name of Iron.

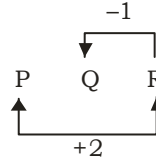
5. (C) (A)



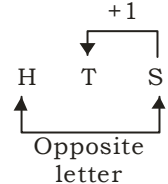
(B)



(C)



(D)



6. (D) (A) $8 \xrightarrow{+1} 9 \xrightarrow{(9)^2} 81$

(B) $10 \xrightarrow{+1} 11 \xrightarrow{(11)^2} 121$

(C) $12 \xrightarrow{+1} 13 \xrightarrow{(13)^2} 169$

(D) $14 \xrightarrow{+1} 15 \xrightarrow{(15)^2} 225$

7. (B) 5. Jingle \rightarrow 2. Jingling \rightarrow 1. Journey \rightarrow 3. Judge \rightarrow 4. Judgement

8. (C) Amrita's position from the left end $\rightarrow 3^{\text{rd}}$
 Sumitra's position from the right end $\rightarrow 26^{\text{th}}$
 After changing Amrita's position from the left end $\rightarrow 35^{\text{th}}$
 Required Number of girls = $35 + 26 - 1 = 60$

9. (D) As,
 $14 \xrightarrow{\times \frac{14}{2}} 98$
 $12 \xrightarrow{\times \frac{12}{2}} 72$
 Similarly,
 $8 \xrightarrow{\times \frac{8}{2}} 32$

10. (B)
- | | | | | |
|---|--------------|----|---|------|
| D | ← opposite → | W, | A | ↓ -1 |
| X | ← opposite → | C, | Z | ↓ -1 |
| P | ← opposite → | K, | Y | |

11. (C) It was Saturday. On 31 December 2005.
 Number of odd days from 2006 to 2010 = $1 + 1 + 2 + 1 + 1 = 6$
 It was Saturday + 6 = Friday on 31 December 2010.
 Hence, it was Sunday on 2 January 2011.

12. (D)
- | | | | |
|---|----|---|-----------------------|
| 3 | 15 | 4 | $3 \times 4 + 3 = 15$ |
| 7 | 38 | 5 | $7 \times 5 + 3 = 38$ |
| 3 | ? | 5 | $3 \times 5 + 3 = 18$ |

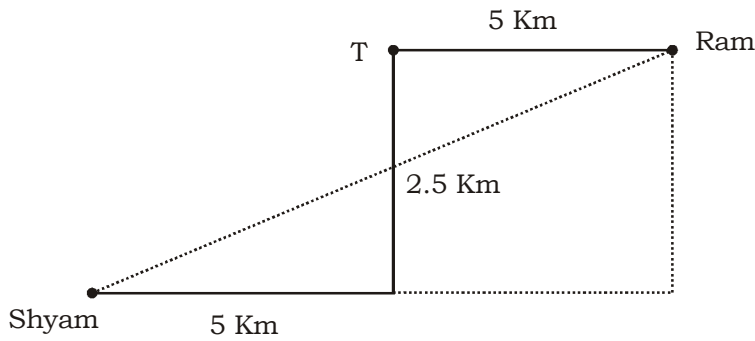
13. (D)
- | | | | | | |
|-------|-------|-------|----|----|----|
| | | +1 | | +1 | |
| 49 | 5 | 64 | 6 | 81 | 7 |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 7^2 | 8^2 | 9^2 | | | |
| ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| +1 | +1 | +1 | +1 | +1 | +1 |

14. (C)
-
- $MN = \sqrt{(AM)^2 + (AN)^2} = \sqrt{(12)^2 + (16)^2} = \sqrt{144 + 256}$
 $= \sqrt{400} = 20 \text{ km}$

15. (B)
- | | |
|----------------|-----|
| B ⁻ | |
| | |
| D ⁺ | |
| | |
| M ⁺ | — N |

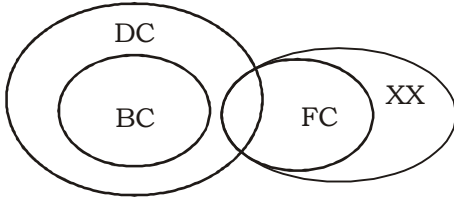
Hence, M is the Grand son of B.

16. (B)



$$\begin{aligned} \text{Required distance} &= \sqrt{10^2 + (2.5)^2} \\ &= \sqrt{100 + 6.25} = \sqrt{106.25} \text{ Km} \end{aligned}$$

17. (B)



Conclusion:

- I. Doubt II. True
III. Doubt IV. False

Hence, only conclusion II and either conclusion I and III follow.

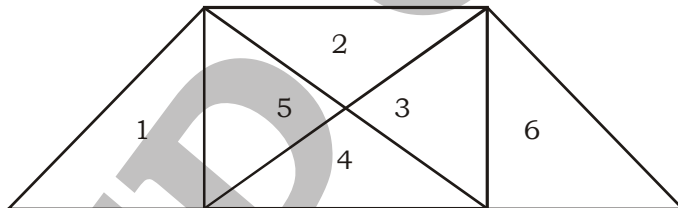
18. (B) As,

$$22 \times 5 - 9^2 = 110 - 81 = 29$$

Similarly,

$$15 \times 12 - 11^2 = 180 - 121 = \mathbf{59}$$

19. (B)



Total number of triangles are = 1, 2, 3, 4, 5, 6, (4, 3), (5, 2), (4, 5), (2, 3), (1, 5, 4), (4, 3, 6) = 12

20. (B) 2034 → 2034 is not completely divisible by 4.

2032 → 2032 is completely divisible by 4.

2021 → 2021 is not completely divisible by 4.

2022 → 2022 is not completely divisible by 4.

21. (C) As,

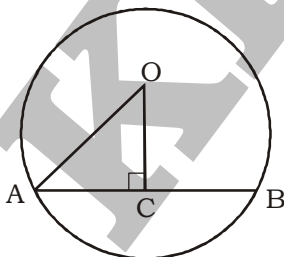
$$4 \xrightarrow{\times 4} 16 + 4 = 20$$

$$6 \xrightarrow{\times 6} 36 + 6 = 42$$

Similarly,

$$8 \xrightarrow{\times 8} 64 + 8 = 72$$

22. (C) 23. (C) 24. (C)
25. (B) 55, 78, 20, 68
26. (A) The Mauryan emperor, Ashoka invaded Kalinga in 261 BC and after a fierce battle Kalinga was conquered. The 13th rock edict of Ashoka elaborates the Kalinga war.
27. (C) Sundarbans – a UNESCO-listed World Heritage Site. Sundarban has world’s largest mangrove forest which is home to wide range of fauna, including 260 bird species, the Bengal tiger and other threatened species such as the estuarine crocodile and the Indian python. It is also home to the rare Irrawaddy dolphin.
29. (A) All India Khilafat Conference : In November 1919, a joint conference of the Muslims and Hindus was called at Delhi in pursuance of the Muslim League President Fazl-ul-Haq . Gandhi ji suggested to start the non-cooperation movement which was opposed by Jinnah. In December 1919, the Khilafat Conference held its second session. The third Khilafat Conference was held in February 1920 at Bombay.
31. (B) Effect of adding liquid is to make the cylinder more bottom heavy which is a more stable position.
33. (C) Hydrogen is a combustible gas. It burns in air or oxygen to give water.
36. (C) Sir Isaac Newton was an English mathematician and mathematician and physicist who lived from 1642-1727. The legend is that Newton discovered Gravity when he saw a falling apple while thinking about the forces of nature.
37. (C) Mitochondria is known as 'Power house' of the cell because they produce energy in the form of ATP.
40. (A) Hippocrates is considered to be the father of modern medicine because in his books, which are more than 70. He described in a scientific manner, many diseases and their treatment after detailed observation. He lived about 2400 years ago.
41. (A) "Jana Gana Mana" is the national anthem of India written by Nobel laureate Rabindranath Tagore. The song which has been saluted by billions of people for the last 100 years was first sung on the second day of the annual conference of the Indian National Congress (INC) in Calcutta on December 27, 1911.
44. (A) If air contained all oxygen and no nitrogen, everything would have burnt off.
48. (B) The seven ancient wonders of the world include Great Pyramid at Giza, Egypt; Hanging Gardens of Babylon; Statue of Zeus at Olympia, Greece; Temple of Artemis at Ephesus; Mausoleum at Halicarnassus; Colossus of Rhodes and Lighthouse at Alexandria, Egypt; The Taj Mahal in India.
51. (B)
52. (C)



OC = 7 cm

OA = 25 cm (radius)

AB = chord

We know that perpendicular drawn from the centre bisects the chord.

In $\triangle OAC$,

$$OA^2 = AC^2 + OC^2 \text{ (Pythagoras theorem)}$$

$$(25)^2 = AC^2 + (7)^2$$

$$\sqrt{625 - 49} = AC$$

$$AC = \sqrt{576} = 24 \text{ cm}$$

$$AB = 2 \times AC = 2 \times 24 \text{ cm} = 48 \text{ cm}$$

53. (C) Let numbers are $3x$ and $4x$.

ATQ,

$$3 \times 4 \times x = 180$$

$$x = 15$$

$$\text{So, 2}^{\text{nd}} \text{ number is } = 4x = 4 \times 15 = 60$$

54. (A) $\left\{ \left(\sqrt[n]{x^2} \right)^{\frac{n}{2}} \right\}^2 = \left(\sqrt[n]{x^2} \right)^n$

$$= (x^2)^{\frac{n}{n}} = x^2$$

55. (A) $x^4 + \frac{1}{x^4} = 119$

$$x^2 + \frac{1}{x^2} = \sqrt{119+2} = 11$$

$$x - \frac{1}{x} = \sqrt{11-2} = \pm 3$$

$$\text{If } x - \frac{1}{x} = P, \text{ then } x^3 - \frac{1}{x^3} = P^3 + 3P$$

$$x^3 - \frac{1}{x^3} = (3)^3 + 3 \times 3 = 36$$

or $(-3)^3 + 3 \times (-3) = -36$

56. (B) $pq + qr + rp = 0$

$$-qr = pq + rp \quad \dots(i)$$

$$-pq = qr + rp \quad \dots(ii)$$

$$-rp = pq + qr \quad \dots(iii)$$

$$\frac{p^2}{p^2 - qr} + \frac{q^2}{q^2 - rp} + \frac{r^2}{r^2 - pq}$$

$$\frac{p^2}{p^2 + rp + pq} + \frac{q^2}{q^2 + pq + qr} + \frac{r^2}{r^2 + qr + rp}$$

$$\frac{p^2}{p(p+q+r)} + \frac{q^2}{q(p+q+r)} + \frac{r^2}{r(p+q+r)}$$

$$\frac{p}{(p+q+r)} + \frac{q}{(p+q+r)} + \frac{r}{(p+q+r)}$$

$$\frac{p+q+r}{p+q+r} = 1$$

57. (B) Let the daily sale be ₹ 100.

ATQ,

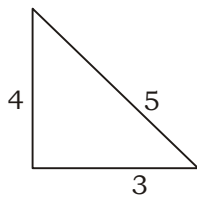
$$100 \times \frac{75}{100} \times \frac{130}{100} = 97.5$$

$$\text{Mean \% decrease} = 100 - 97.5 = 2.5\%$$

58. (B) $\tan 5^\circ \tan 10^\circ \tan 20^\circ = \tan 3 \times 5^\circ$

$$\tan 15^\circ = 2 - \sqrt{3} \quad (\text{Where } \theta = 5^\circ)$$

59. (A)



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

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

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

$$\sin \alpha = \frac{4}{5}, \frac{-2}{3} \quad (\alpha \text{ can't be negative})$$

$$\cot \alpha = \frac{3}{4}$$

60. (C) $2\pi R_1 (R_1 + h) = \pi(12^2 - 8^2)$

$$R_1 + h = \frac{80}{2R_1} = \frac{40}{R_1}$$

$$h = \frac{40}{R_1} - R_1 = \frac{40 - R_1^2}{R_1}$$

61. (C) Maximum retail price = ₹ 60

$$\text{Selling price of article} = 60 \times \frac{85}{100} = ₹ 51$$

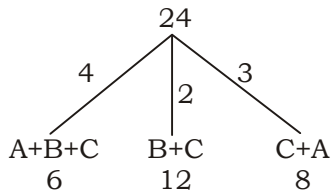
$$\text{Actual selling price after giving gift} = 51 - 3 = ₹ 48$$

$$\text{Cost price} = 48 \times \frac{100}{120} = ₹ 40$$

62. (B) Required Time = $\frac{\text{Distance between them}}{\text{Relative speeds}}$

$$= \frac{5}{90 - 75} = \frac{1}{3} \text{ hr} = 20 \text{ minutes}$$

63. (C)

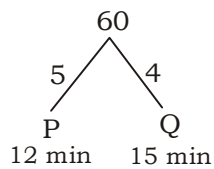


Efficiency of A = $4 - 2 = 2$

Efficiency of B = $4 - 3 = 1$

(A + B) will do = $\frac{24}{2+1} = 8$ days

64. (D)



Part filled in 3 min = $(5 + 4) \times 3 = 27$

Remaining part = $60 - 27 = 33$

Q will take = $\frac{33}{4} = 8 \frac{1}{4}$ min

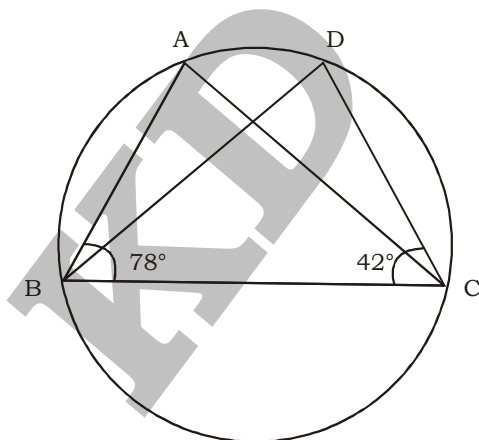
65. (A) Speed of second train = $\frac{360}{4} = 90$ km/hr

Ratio of speeds of 1st and 2nd train = 8 : 9
 $\downarrow \times 10$: $\downarrow \times 10$

80 km/hr 90 km/hr

\therefore Distance travelled in 3 hour by 1st train = $80 \times 3 = 240$ km/hr

66. (C)



We know that,

The angle in same segment are equal.

$\angle BDC = \angle BAC$

Now in $\triangle ABC$,

$$\angle A + \angle B + \angle C = 180^\circ$$

$$\angle A + 78^\circ + 42^\circ = 180^\circ$$

$$\angle A = 180^\circ - 120^\circ$$

$$\angle A = 60^\circ$$

$$\angle BAC = \angle BDC = 60^\circ$$

67. (C) $\frac{M : W}{300 \text{ l}}$ $\frac{M : W}{200 \text{ l}}$ $\frac{M : W}{100 \text{ l}}$

$$1^{\text{st}} 300 \times \frac{1}{3} = 100 \rightarrow \text{water} = \frac{2}{7} \times 100 = \frac{200}{7}$$

$$2^{\text{nd}} 200 \times \frac{1}{2} = 100 \rightarrow \text{water} = \frac{1}{5} \times 100 = 20$$

$$3^{\text{rd}} 100 \times \frac{1}{7} = \frac{100}{7} \rightarrow \text{water} = \frac{1}{5} \times \frac{100}{7} = \frac{100}{35} = \frac{20}{7}$$

$$\text{Total water} = \frac{200}{7} + \frac{20}{7} + 20 = \frac{360}{7}$$

$$\text{Total mixture} = 100 + 100 + \frac{100}{7} = \frac{1500}{7}$$

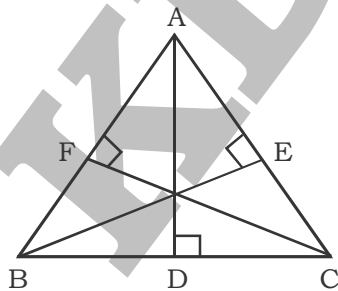
$$\text{Required percentage} = \frac{\frac{360}{7}}{\frac{1500}{7}} \times 100 = 24\%$$

68. (D) $\frac{M_1 D_1 T_1}{W_1} = \frac{M_2 D_2 T_2}{W_2}$

$$\frac{12 \times 6 \times 240}{460} = \frac{18 \times 360 \times 8}{W_2}$$

$$W_2 = 1380$$

69. (C)



As we know that $\triangle ABC$ is an equilateral triangle

$$\text{Height} = \frac{\sqrt{3}}{2} \times \text{side}$$

$$BE = \frac{\sqrt{3}}{2} \times AC$$

Squaring both sides,

$$BE^2 = \frac{3}{4} \times AC^2$$

$$4BE^2 = 3AC^2$$

$$\therefore 3AC^2 = 4BE^2$$

70. (C) $P = ₹ 2,000$

$$A = ₹ 2,315.25$$

$$T = 1.5 \text{ years} = 3 \text{ half yearly}$$

$$2315.25 = 2000 \left(1 + \frac{r}{100}\right)^3$$

$$\frac{2315.25}{2000} \times \frac{4}{4} = \left(1 + \frac{r}{100}\right)^3$$

$$\frac{9261}{8000} = \left(1 + \frac{r}{100}\right)^3$$

$$\left(\frac{21}{20}\right)^3 = \left(1 + \frac{r}{100}\right)^3$$

$$\frac{21}{20} = 1 + \frac{r}{100}$$

$$\frac{r}{100} = \frac{21 - 20}{20} = \frac{1}{20}$$

$$r = 5\% \text{ half yearly}$$

$$\therefore r = 10\%$$

71. (A) Part of body is made of neither bones nor skin nor muscles = $\left(1 - \frac{1}{3} + \frac{1}{10} + \frac{1}{6}\right)$

$$= 1 - \frac{18}{30} = \frac{12}{30}$$

$$\text{Required percentage} = \frac{12}{30} \times 100 = 40\%$$

72. (C) Required ratio = $\frac{1}{3} \times 16\% : \frac{1}{6} \times 16\% = 2 : 1$

73. (B) Required quantity of water = $50 \times \frac{70}{100} = 35 \text{ kg}$

74. (B) Required percentage = $\frac{10}{100} \times 100 = 10\%$

75. (C) Required angle = $\frac{30}{100} \times 360 = 108^\circ$

MEANINGS IN ALPHABETICAL ORDER

Allegory	a story, poem, or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one	रूपक
Aristocratic	of, belonging to, or typical of the aristocracy	भव्य
Comply	(of a person or group) act in accordance with a wish or command	पालन करना
Conservative	averse to change or innovation and holding traditional values	अपरिवर्तनवादी
Contagious	(of a disease) spread from one person or organism to another by direct or indirect contact	संक्रामक
Dire	(of a situation or event) extremely serious or urgent	भयानक
Enmity	the state or feeling of being actively opposed or hostile to someone or something	शत्रुता
Fable	a short story, typically with animals as characters, conveying a moral	कल्पित कहानी
Fatal	causing death	घातक
Grim	forbidding or uninviting	विकट
Hostility	hostile behavior; unfriendliness or opposition	शत्रुता
Invigorate	give strength or energy to	मजबूत करना
Lethargic	affected by lethargy; sluggish and apathetic	सुस्त
Ominous	giving the impression that something bad or unpleasant is going to happen; threatening; inauspicious	अमंगल
Parable	a simple story used to illustrate a moral or spiritual lesson, as told by Jesus in the Gospels	दृष्टांत
Presumptuous	(of a person or their behavior) failing to observe the limits of what is permitted or appropriate	अभिमान
Sympathy	feelings of pity and sorrow for someone else's misfortune	सहानुभूति

SSC MOCK TEST - 285 (ANSWER KEY)

- | | | | |
|---------|---------|---------|----------|
| 1. (D) | 26. (A) | 51. (B) | 76. (A) |
| 2. (A) | 27. (C) | 52. (C) | 77. (A) |
| 3. (C) | 28. (A) | 53. (C) | 78. (A) |
| 4. (D) | 29. (A) | 54. (A) | 79. (A) |
| 5. (C) | 30. (B) | 55. (A) | 80. (D) |
| 6. (D) | 31. (B) | 56. (B) | 81. (A) |
| 7. (B) | 32. (A) | 57. (B) | 82. (C) |
| 8. (C) | 33. (C) | 58. (B) | 83. (A) |
| 9. (D) | 34. (D) | 59. (A) | 84. (D) |
| 10. (B) | 35. (B) | 60. (C) | 85. (D) |
| 11. (C) | 36. (C) | 61. (C) | 86. (A) |
| 12. (D) | 37. (C) | 62. (B) | 87. (B) |
| 13. (D) | 38. (B) | 63. (C) | 88. (C) |
| 14. (C) | 39. (C) | 64. (D) | 89. (B) |
| 15. (B) | 40. (A) | 65. (A) | 90. (D) |
| 16. (B) | 41. (A) | 66. (C) | 91. (C) |
| 17. (B) | 42. (A) | 67. (C) | 92. (A) |
| 18. (B) | 43. (B) | 68. (D) | 93. (D) |
| 19. (B) | 44. (A) | 69. (C) | 94. (B) |
| 20. (B) | 45. (B) | 70. (C) | 95. (C) |
| 21. (C) | 46. (D) | 71. (A) | 96. (A) |
| 22. (C) | 47. (B) | 72. (B) | 97. (D) |
| 23. (C) | 48. (B) | 73. (B) | 98. (C) |
| 24. (C) | 49. (D) | 74. (B) | 99. (A) |
| 25. (B) | 50. (B) | 75. (C) | 100. (B) |

76. (A) Change 'a' into 'an'. 'Earth quake' starts with vowel sound.
77. (A) Change 'does' into 'do'. 'Parents' is a plural noun.
86. (A) Verb 'avoid' takes Gerund after it. Use 'avoid going to....'
87. (B) 'Break into' means 'to enter by force.'
90. (D) The correct spelling of 'Passanger' is 'Passenger', 'Symptum' is 'Symptom' and 'Quarelling' is 'Quarrelling'.
91. (C) The correct spelling of 'Palatible' is 'Palatable'. 'Flexeble' is 'Flexible' and 'Invinceble' is 'Invincible'.