

SSC MOCK TEST - 262 (SOLUTION)

1. (C) As,

$$1 + 6 + 0 = 7 \xrightarrow{7^3} 343$$

Similarly,

$$2 + 2 + 5 = 9 \xrightarrow{9^3} 729$$

2. (C) As,

$$B \xrightarrow{-3} Y$$

$$P \xrightarrow{-4} L$$

$$U \xrightarrow{-5} Q$$

$$T \xrightarrow{-6} O$$

Similarly,

$$Q \xrightarrow{-3} N$$

$$D \xrightarrow{-4} Z$$

$$J \xrightarrow{-5} E$$

$$C \xrightarrow{-6} W$$

3. (B) Virat kohli is related to cricket, while Karnam Malleswari is related to weightlifting.

4. (A) Except option (A), the digits of given option (B), (C) and (D) are prime number.

5. (C) (A) $X \xrightarrow{+6} D \xrightarrow{+6} J \xrightarrow{+6} P$

(B) $T \xrightarrow{+3} W \xrightarrow{+3} Z \xrightarrow{+3} C$

(C) $P \xrightarrow{+4} T \xrightarrow{+3} W \xrightarrow{+4} A$

(D) $Q \xrightarrow{+2} S \xrightarrow{+2} U \xrightarrow{+2} W$

6. (A) Except option (A), others are disease.

7. (C) 4. Qualification → 2. Quantity → 1. Quarterly → 5. Quickly → 3. Quietly

8. (C) $H^{(+)} \longleftrightarrow D^{(-)}$

|
K⁽⁺⁾ ——— J^(+/-)

|
Q⁽⁺⁾ ——— U⁽⁺⁾

Hence, K is the brother of J.

9. (B) $223 \quad 239 \quad 243 \quad 247 \quad 263 \quad 267 \quad 271$
- \curvearrowright \curvearrowright \curvearrowright \curvearrowright \curvearrowright \curvearrowright
- $+16 \quad +4 \quad +4 \quad +16 \quad +4 \quad +4$
- $\uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
- $4^2 \quad 2^2 \quad 2^2 \quad 4^2 \quad 2^2 \quad 2^2$

10. (C) $C \xrightarrow{+6} I \xrightarrow{+3} L \xrightarrow{+6} \mathbf{R}$
- $F \xrightarrow{+6} L \xrightarrow{+3} O \xrightarrow{+6} \mathbf{U}$
- $I \xrightarrow{+6} O \xrightarrow{+3} R \xrightarrow{+6} \mathbf{X}$

11. (D)

| | | | |
|---------------|---|---|---|
| Front face | X | P | M |
| Opposite face | C | K | O |

12. (C) **Ist column,**
- $30 \times 1.5 = 45$
- $45 \times 2 = 90$
- IInd column,**
- $50 \times 1.5 = 75$
- $75 \times 2 = 150$
- IIIrd column,**
- $38 \times 1.5 = 57$**
- $57 \times 2 = 114$

13. (B)

$$\begin{aligned}
 YX &= \sqrt{(QX)^2 + (QY)^2} \\
 &= \sqrt{(16)^2 + (20)^2} = \sqrt{256 + 400} = \sqrt{656} \\
 &= \sqrt{2 \times 2 \times 2 \times 2 \times 41} = 4\sqrt{41} \text{ km}
 \end{aligned}$$

14. (C) As,

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

$$E \xrightarrow{-2} C$$

$$L \xrightarrow{+0} L$$

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

$$I \xrightarrow{-2} G$$

Similarly,

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

$$I \xrightarrow{-2} G$$

$$H \xrightarrow{+0} H$$

$$A \xrightarrow{+2} C$$

$$R \xrightarrow{-2} P$$

15. (C)

16. (A) There are 33 triangles in the given question figure.

17. (B) u **k d** r p k q **r** u k d **r** p k **q** r **u** k d r **p** k **q** r

18. (C) Total people in a queue = 70

Lokesh position from left end = 20th

Ankur position from right end = 33th

∴ Total number of people between the Lokesh and Ankur = 70 - 20 - 33 = 17

Shasi's position from the right end = 33 + 9 = 42

19. (C)

20. (C) $24 + 4 \div 5 - 28 \times 2 = 30$

After changing the signs, we have

$$24 + 4 \times 5 - 28 \div 2 = 30$$

$$24 + 20 - 14 = 30$$

$$44 - 14 = 30$$

$$30 = 30$$

21. (A) As,

$$M \xrightarrow{-4} I$$

$$A \xrightarrow{+4} E$$

$$R \xrightarrow{-3} O$$

$$K \xrightarrow{+3} N$$

$$E \xrightarrow{-2} C$$

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

Similarly,

$$T \xrightarrow{-4} P$$

$$H \xrightarrow{+4} L$$

$$E \xrightarrow{-3} B$$

$$R \xrightarrow{+3} U$$

$$M \xrightarrow{-2} K$$

$$O \xrightarrow{+2} Q$$

22. (C) 23. (C)
24. (B) B A L E C A R T O Y
- | | | | | | | | | | | |
|-----------------------------------|---|---|-----|----|----|---|-----|-----|-----|-----|
| Position | 2 | 1 | 12 | 5 | 3 | 1 | 18 | 20 | 15 | 25 |
| Position + 1 | 3 | 2 | 13 | 6 | 4 | 2 | 19 | 21 | 16 | 26 |
| (Position + 1)² | 9 | 4 | 169 | 36 | 16 | 4 | 361 | 441 | 256 | 676 |
25. (C)
27. (C) Iltutmish was a real founder of Delhi Sultanate. He made Delhi the capital in place of Lahore. He saved Delhi Sultanate from the wrath of Chengiz Khan- the Mongol Leader - by refusing shelter to Khwarizm Shah, whom Chengiz was chasing. He completed the construction of Qutub Minar.
28. (C) The party's primary goal was to contest the elections to the new Central Legislative Assembly in 1923 and, once in office, to disrupt official policy and derail the Raj (British government in India) by antigovernment agitation within the council chambers.
31. (D) Palk Strait, inlet of the Bay of Bengal between southeastern India and northern Sri Lanka. It is bounded on the south by Pamban Island (India), Adam's (Rama's) Bridge (a chain of shoals), the Gulf of Mannar, and Mannar Island (Sri Lanka).
32. (A) The Constitution (First Amendment) Act, 1951, enacted in 1951, made several changes to the Fundamental Rights provisions of the Indian constitution.
33. (B) This 11.2 km/s is also known as the escape velocity. It works out to roughly 25000 miles per hour.
34. (B) (A) Sodium hydroxide - NaOH is caustic soda
(B) Sodium carbonate - Na₂CO₃ is washing soda
(C) Sodium bicarbonate - NaHCO₃ is baking soda.
35. (C) Famous Actor Sonu Sood has been conferred with "SDG Special Humanitarian Action Award" by the United Nations Development Programme (UNDP). The award has been conferred upon him for his selfless assistance rendered to migrants, stranded students abroad and bring them back to India. He also opened his hotel in Mumbai for health care workers of nearby hospitals.
37. (C) A Geostationary Earth Orbit (GEO), is a circular orbit 35786 km above the Earth's Equator and following the direction of the Earth's rotation. An object in such an orbit has an orbital period equal to the Earth's rotational period (one sidereal day), and thus appears motionless, at a fixed position in the sky, to ground observers.
38. (B) SLIP: A type of protocol.
39. (D) Established in 1975, the Nuclear Suppliers Group (NSG) is comprised of 45 nuclear supplier states, including China, Russia and the United States, that have voluntarily agreed to coordinate their export controls governing transfers of civilian nuclear material and nuclear related equipment and technology to non-nuclear-weapon states.
40. (D) Nobel Prize is the most prestigious award in the world. This award is administered by the Nobel Foundation in Stockholm, Sweden. Every year since 1901, the Nobel Prize has been awarded for achievements in Physics, Chemistry, Physiology or Medicine, Literature and for Peace. In 1968, Sveriges Riksbank (Sweden's central bank) established Prize in Economic Sciences in memory of Alfred Nobel, founder of the Nobel Prize.
43. (D) Away from the mainland of India, the southern most point of the country in the Andaman and Nicobar islands, the Pygmalion Point or Indira Point is located at 6°45' north latitude.

44. (C) Rajasthan was the first state to establish Panchayati Raj. The scheme was inaugurated by the Prime Minister on October 2, 1959, in Nagaur district. Rajasthan was followed by Andhra Pradesh, which also adopted the system in 1959. Thereafter, most of the states adopted the system.
46. (C) National Gallery of Modern Art, New Delhi launched a virtual program, named "NGMA KE SANGRAH SE", to showcase its artworks.
47. (B) Isotopes are atoms of the same element which have the same atomic number but different mass numbers. Isotopes have same number of protons but different numbers of neutrons in the nuclei.
50. (D) Vitamin K is an essential vitamin that is needed by the body for blood clotting, bone building, and other important processes.
51. (B) Let the numbers are 50 and 60 respectively.

$$\begin{array}{cc}
 A & : & B \\
 50 & & 60 \\
 \downarrow +20\% & & \downarrow -20\% \\
 60 & : & 48
 \end{array}$$

\therefore Required ratio = $60 : 48 = 5 : 4$

52. (B) Let SP = 100

$$\begin{array}{cc}
 \text{Loss} & \text{Profit} \\
 80 & 115 \\
 \curvearrowright +35 &
 \end{array}$$

$35 \longrightarrow 105$

$1 \longrightarrow 3$

$100 \longrightarrow 300$

53. (C) Listed price = ₹ 1400

After 1st discount = $\frac{90}{100} \times 1400 = ₹ 1260$

SP = ₹ 1200

Additional discount % = $\frac{1260 - 1200}{1260} \times 100 = 4\frac{16}{21}\%$

54. (D) Let the sum = 100 units

$$\begin{array}{ccc}
 & 100 & \\
 11.5\% & \swarrow & \searrow 10\% \\
 11.5 & & 10 \\
 \curvearrowright 1.5 & &
 \end{array}$$

According to question,

$$1.5 \text{ units} = 75$$

$$1 \text{ unit} = \frac{75}{1.5}$$

$$\therefore 100 \text{ units} = \frac{75}{1.5} \times 100 = ₹ 5000$$

55. (B) According to the question,

Principal = ₹ S

Rate = $2r\%$ p.a

Time = 3 years

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

$$A = S \left(1 + \frac{2r}{100} \right)^3$$

$$A = S \left(1 + \frac{r}{50} \right)^3$$

56. (A) $A + B + C = 196$

$$\begin{array}{r} A : B : C \\ \times | 2 : 3 : 3 \\ \hline \downarrow 5 : 5 : 8 \\ \hline 10 : 15 : 24 \end{array}$$

$$10x + 15x + 24x = 49x$$

$$49x = 196$$

$$x = 4$$

$$\therefore \text{Second number (B)} = 4 \times 15 = 60$$

57. (A) Let their monthly income be ₹ $8x$ and ₹ $5x$

According to the question

$$\frac{8x - 12000}{5x - 10000} = \frac{5}{3}$$

$$24x - 36000 = 25x - 50000$$

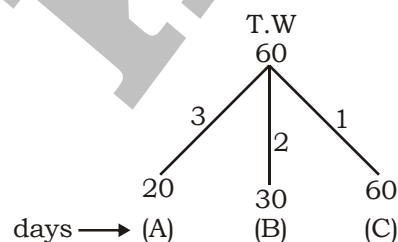
$$x = 14000$$

$$\text{Difference in monthly income} = 8x - 5x = 3x$$

$$x = 14000$$

$$3x = 14000 \times 3 = ₹ 42,000$$

58. (C)



In 3 days cycle total work done is = $3 + 3 + 6 = 12$ units

Work will be completed in = $\frac{60}{12} = 5$ cycles

1 cycle \rightarrow 3 days

5 cycle $\rightarrow 3 \times 5 = 15$ days

59. (D) 1 sec \rightarrow 1 drop

Number of second in 300 days

$(24 \text{ hrs} \times 60 \text{ min} \times 60 \text{ sec}) \times 300 \text{ days}$

Number of litres wasted = $\frac{300 \times 24 \times 60 \times 60}{6 \times 1000}$ litres = 4320 litres

60. (B) Speed = $78 \text{ km/hr} = \frac{78}{60} \times 1000 \text{ m/min} = 1300 \text{ m/min}$

Distance travelled in 1 min = 1300 m

$1300 = l + 800$

$l = 500 \text{ m}$

length of tunnel is 500 m

61. (C) Speed of boat in still water, $x = 5 \text{ km/hr}$

Speed of stream,

$y = 3 \text{ km/hr}$

According to question,

$$\frac{\text{Distance}}{8} + \frac{\text{Distance}}{2} = 3 \text{ hrs}$$

$$\frac{D}{8} + \frac{D}{2} = 3$$

$$\frac{5D}{8} = 3$$

$$5D = 24$$

$$D = \frac{24}{5} = 4.8 \text{ km}$$

62. (D) $x = \frac{1 + \sin \theta}{\cos \theta}$

$$\frac{1}{x} = \frac{\cos \theta}{1 + \sin \theta}$$

$$= \frac{\cos \theta}{1 + \sin \theta} \times \frac{1 - \sin \theta}{1 - \sin \theta} = \frac{\cos \theta(1 - \sin \theta)}{\cos^2 \theta}$$

$$= \frac{1 - \sin \theta}{\cos \theta}$$

63. (D) $\sin^6 A + \cos^6 A + 3\sin^2 A \cos^2 A$
 $= (\sin^2 A)^3 + (\cos^2 A)^3 + 3\sin^2 A \cos^2 A (\sin^2 A + \cos^2 A)$
 $= [\sin^2 A + \cos^2 A]^3 = 1$

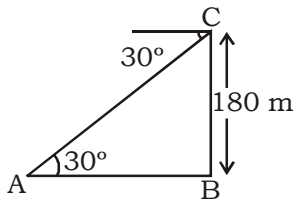
$[\because \sin^2 A + \cos^2 A = 1]$

64. (B) $\tan \theta + \frac{1}{\tan \theta} = 2$

So, $\tan \theta = 1$

$$\tan^2 \theta + \frac{1}{\tan^2 \theta} = (1)^2 + \frac{1}{(1)^2} = 2$$

65. (B)



$$\frac{\text{Distance of cat from foot of tower}}{\text{Height of tower}} = \cot 30^\circ$$

$$\text{Distance of cat from foot of tower} = 180 \times \sqrt{3} = 180\sqrt{3} \text{ m}$$

66. (C) Length of tree having 80 m shadow = $\frac{24}{18} \times 60 = 80 \text{ m}$

67. (C) Required ratio = $27.5 : 21.5 = 55 : 43$

68. (D) Required angle = $\frac{13.33}{100} \times 360^\circ = \frac{40}{3 \times 100} \times 360^\circ = 48^\circ$

69. (C) Income tax earned by govt. = $\frac{20.17}{100} \times 1200 = 242 \text{ crore (approx)}$

70. (A)

71. (C) Required percentage = $(27.5 + 13.33 + 20.17) - (21.5 + 17.5)$
 $= (61 - 39)\% = 22\%$

72. (B) $\sqrt{248 + \sqrt{52 + \sqrt{144}}}$

$$= \sqrt{248 + \sqrt{52 + 12}} = \sqrt{248 + \sqrt{64}}$$

$$= \sqrt{248 + 8} = \sqrt{256} = 16$$

73. (D) Required number = Largest 5-digit multiple of 3, 5, 8 & $12 + 2$
 $= \text{Largest 5-digit multiple of } 120 + 2 = 99960 + 2$
 $= 99962$

74. (A) $(4 + 1) \times 1 = 6$

$$(6 + 1) \times 2 = 15$$

$$(15 + 1) \times 3 + 1 = 49$$

$$(49 + 1) \times 4 + 1 = 201$$

$$(201 + 1) \times 5 + 1 = 1011$$

$$(1011 + 1) \times 6 + 1 = 6073$$

75. (D) HCF of $(a^2 + 7a + 12)$

↓

$$(a + 3)(a + 4)$$

and $(a^2 + 8a + 15)$

↓

$$(a + 3)(a + 5)$$

$$\text{HCF} = (a + 3)$$

MEANINGS IN ALPHABETICAL ORDER

| | | |
|------------|--|-----------------------------|
| Acquainted | make someone aware of or familiar with | परिचित |
| Acquitted | free from a criminal charge by a verdict of not guilty affairs of state or diplomatic occasions | बरी, दोषमुक्त |
| Affluent | wealthy against surprise attack | धनी |
| Circuitous | longer than the most direct way | घुमावदार |
| Congenial | pleasant because of similar to one's interest faults or weaknesses from the main force, used especially as a guard | अनुकूल, सौहार्दपूर्ण |
| Gradual | taking place or progressing slowly | क्रमिक |
| Indulge | allow oneself to enjoy the pleasure of something institution in which you use humour to show their | लिप्त होना |
| Mechanism | a natural or established process by which something | तंत्र |
| Mellow | pleasantly smooth or soft; free from harshness | कोमल |
| Monotonous | dull, tedious, and repetitious | नीरस, उबाऊ |
| Outpost | a small military camp or position at some distance | चौकी |
| Plaintive | sounding sad and mournful | शोक भरा, विलापी |
| Protocol | the official procedure or system of rules governing | अनुशासन तंत्र की क्रियाविधि |
| Sap | gradually weaken or destroy | कमजोर करना |
| Satire | a way of criticizing a person, an idea or an takes place or is brought about | व्यंग्य |

SSC MOCK TEST - 262 (ANSWER KEY)

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

76. (B) The subject of the sentence is 'The Prime Minister', hence singular in nature. Change 'have' into 'has'.
77. (C) Change 'on' into 'in'. This is a phrase which means every sad or difficult situation has a positive side.
78. (C) Change 'passing marks' into 'pass marks'.
96. (A) The correct spelling is 'Accessibility'.