

SSC MOCK TEST - 262 (SOLUTION)

1. (B) As,

$$1 + 6 + 9 = 16 \xrightarrow{16^2} 256$$

Similarly,

$$3 + 6 + 1 = 10 \xrightarrow{10^2} 100$$

2. (C) As,

$$S \xrightarrow{+3} V$$

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

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

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

Similarly,

$$D \xrightarrow{+3} G$$

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

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

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

3. (D) Capital of UAE is Abu Dhabi, while Kuala Lumpur is capital of Malaysia.

4. (D) (A) $P \xrightarrow{+4} T \xrightarrow{+4} X \xrightarrow{+4} B$

(B) $X \xrightarrow{+3} A \xrightarrow{+3} D \xrightarrow{+3} G \neq F$

(C) $H \xrightarrow{+5} M \xrightarrow{+5} R \xrightarrow{+5} W$

(D) $L \xrightarrow{+6} R \xrightarrow{+6} X \xrightarrow{+6} D$

5. (C) (A) $6 \xrightarrow{\times 2.5} 15 \xrightarrow{\times 2.5} 37.5 \neq 30$

(B) $8 \xrightarrow{\times 2.5} 20 \xrightarrow{\times 2.5} 50$

(C) $4 \xrightarrow{\times 2.5} 10 \xrightarrow{\times 2.5} 30$

(D) $12 \xrightarrow{\times 2.5} 30 \xrightarrow{\times 2.5} 75$

6. (D) Avast, Norton and Kaspersky are antivirus, while Linux is an operating system.

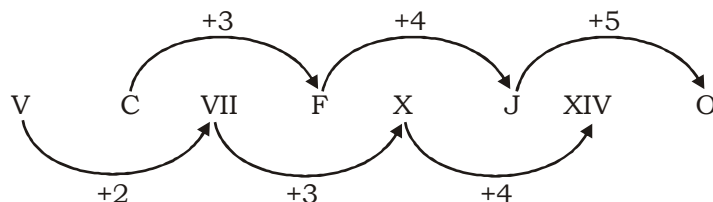
7. (C) 2. Anniversary \rightarrow 1. Annoy \rightarrow 3. Annually \rightarrow 5. Another \rightarrow 4. Anxious

8. (A) Ramesh⁽⁺⁾ \longleftrightarrow Gaurvi⁽⁻⁾

|
Murli⁽⁺⁾ ——— Hema⁽⁻⁾ ——— Prema⁽⁻⁾

Hence, Ramesh is the father of Hema.

9. (B)



10. (C) 216 512 1000 1331 2197 3375
 ↑ ↑ ↑ ↑ ↑ ↑
 6³ 8³ 10³ 11³ 13³ 15³

11. (B) & ← opposite → *

12. (C) **From Ist figure,**

$$5^2 = 25 \xrightarrow{2+5} 7$$

From IInd figure,

$$7^2 = 49 \xrightarrow{4+9} 13$$

From IIIrd figure,

$$9^2 = 81 \xrightarrow{8+1} 9$$

13. (D) $(4 + 3) \times 2 = 14$

$$(3 + 5) \times 2 = 16$$

$$(6 + 4) \times 3 = 30$$

14. (D) As,

$$16 \times 4 \Rightarrow 64 + 16 = 80$$

Similarly,

$$13 \times 5 \Rightarrow 65 + 13 = 78$$

15. (C) As,

C R O C O D I L E
 / | \ / | \ / | \
 ↓ ↓ ↓ ↓ ↓ ↓ ↓
 O R C D O C E L I

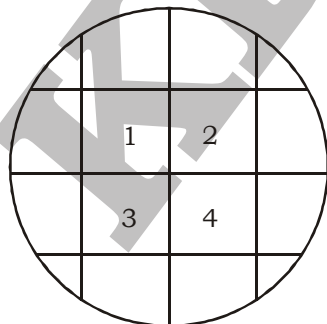
Similarly,

T O C H O F I L E
 / | \ / | \ / | \
 ↓ ↓ ↓ ↓ ↓ ↓ ↓
 C O T F O H E L I

16. (C)

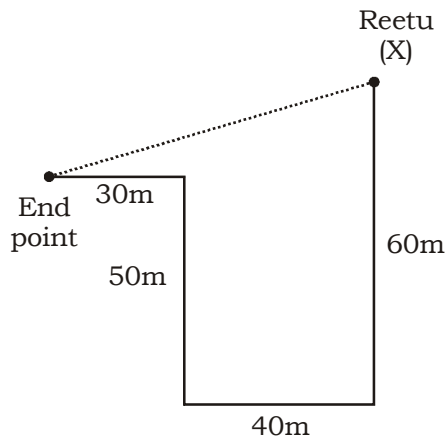
17. (C) w vut / v uts / utsr

18. (B)



Total number of rectangle = 1, 2, 3, 4, (1 and 2), (3 and 4), (1 and 3), (2 and 3) (1, 2, 3 and 4)
 ∴ Total number of triangles = 9

19. (A)



Hence, she is in South-west direction with respect to point X.

20. (B) The day on 15 August 2020 was Saturday and also year 2020 is a leap year.

∴ Odd day in 2020 = 2

Odd day in 2019 = 1

Odd day in 2018 = 1

∴ Saturday - 4 days = Wednesday

21. (B) $731 \div 13 + 450 - 25 \times 43 = 142$

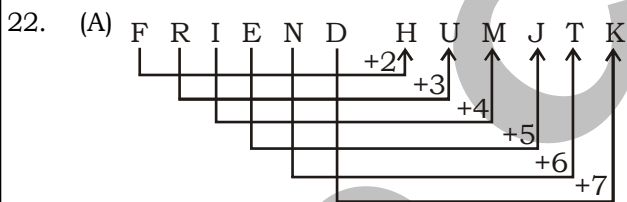
After changing the signs, we have

$731 \div 43 + 450 - 25 \times 13 = 142$

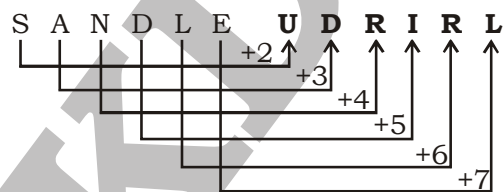
$17 + 450 - 325 = 142$

$467 - 325 = 142$

$142 = 142$

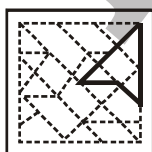


Similarly,



23. (B)

24. (A)



25. (B) L I K E

57 65 68 02

26. (A) **Ropar:** Ropar is situated in Punjab. The evidence of burying a dog below the human burial is very interesting. This was excavated by Yojna Dutta Sharma In 1953-54. Kalibangan: Kalibangan is situated in Ganganagar district of Rajasthan. This was excavated by A Ghosh in 1953 and termed it as a Sothi-Culture.
- Dholavira:** It is situated in Gujarat in Kachcha district. It was discovered by J P Joshi in 1967-68 and excavation carried out by R S Bisht in 1990-91. It is the latest and one of the two largest Harappan settlements in India, the other being Rakhigarhi in Haryana. The other Harappan towns were divided into two parts - Citadel and Lower Town, but Dholavira was divided into three principal divisions, two of which were strongly protected by rectangular fortification.
- Banawali:** Banawali is situated in Haryana and it was excavated by R S Bisht in 1973. Like Kalibangan, Amri, Kot Diji and Harappa, Banawali also saw two cultural phases - pre-Harappan and Harappan. Here we find large quantity of barley, sesamum and mustard.
28. (C) The Seventeenth parallel was the provisional military demarcation line between North and South Vietnam established by the Geneva Accords of 1954.
30. (D) Speaker can be removed by the Lok Sabha by a resolution passed by an effective majority (>50% of total strength excluding vacancies) of the house as per Articles 94 and 96.
32. (C) A hygroscopic substance (as distinct from a deliquescent substance) is one which absorbs moisture from the air but does not turn into a liquid. Ethyl alcohol is hygroscopic but not deliquescent as it is already a liquid.
33. (B) The heart is largely made up of a type of muscle tissue called cardiac muscle.
34. (D) The Central Government has added 20 more sports disciplines in the list of sports eligible for direct recruitment in Group C level government posts through sports quota.
36. (C) Tracks are concentric circle in which information on disk are stored.
38. (C) Khilafat Movement (1920-22): The Caliph (or Khalif(A) Sultan of Turkey, was looked upon by the Muslims as their religious head. During the first World War, when the safety and welfare of Turkey were threatened by the British thereby weakening the Caliph's position, Indian Muslims adopted an aggressive anti-British attitude. The All Brothers - Mohammad Ali and Shaukat Ali - launched an anti-British movement in 1920 - the Khilafat Movement for the restoration of the Khilafat. Maulana Abul Kalam Azad also led the movement. It was supported by Gandhiji and Indian National Congress (INC) which paved the way for Hindu-Muslim unity.
40. (A) Death Valley is a desert valley in Eastern California, in the northern Mojave Desert, bordering the Great Basin Desert. It is one of the hottest places on Earth, along with deserts in the Middle East and the Sahara.
42. (D) Mass is a scalar quantity, rest all are vector quantities, because it does not have any direction.
43. (C) In 1928, Wohler synthesised urea by heating ammonium cyanate.
44. (C) Valves present in the heart and veins prevent the backflow of blood, that is, flow of blood in the direction opposite to that in which it is flowing.
45. (A) Council for the Advancement of People's Action and Rural Technology (CAPART) is an autonomous body under the Ministry of Rural Development Government of India, set up to address specific problems relating to development in the rural areas.
46. (A) The Election Commission of India (ECI) has recently recognized the Jannayak Janta Party (JJP) as state party of Haryana and allotted the symbol of "key" for the party.

48. (B) The Vijay Hazare Trophy, also known as the Ranji One-Day Trophy, was started in 2002-03 as a limited-overs cricket domestic competition involving state teams from the Ranji Trophy plates. It is named after the famous Indian cricketer Vijay Hazare.
49. (C) Scurvy is a condition characterised by general weakness, anaemia, gingivitis (gum disease), and skin haemorrhages caused by a prolonged deficiency of vitamin C (ascorbic acid) in the diet. Vitamin C plays a crucial role in the formation of collagen, a major component of connective tissue.

51. (A) Ratio of investment of A, B and C = $\frac{7}{2} : \frac{4}{3} : \frac{6}{5} = 105 : 40 : 36$

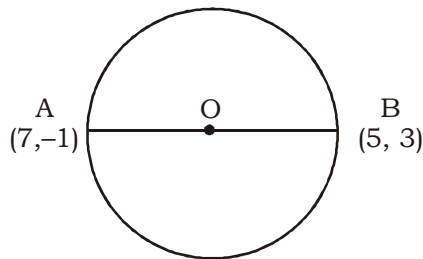
Ratio of profit at the end of one year = $\left(105 \times 4 + 105 \times \frac{150}{100} \times 8\right) : 40 \times 12 : 36 \times 12$

= $(420 + 1260) : 480 : 432$

= $1680 : 480 : 432 = 35 : 10 : 9$

\therefore Profit of C = $\frac{18900}{54} \times 9 = ₹ 3150$

52. (A)

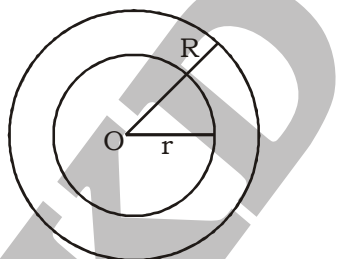


The co-ordinate of O = $\left(\frac{7+5}{2}, \frac{-1+3}{2}\right) = (6, 1)$

The distance between A and O = $\sqrt{(6-7)^2 + (1+1)^2} = \sqrt{1^2 + 2^2} = \sqrt{5}$

\therefore Centre and radius of circle is (6, 1) and $\sqrt{5}$.

53. (B)



Area of enclosed ring = 286 cm^2

$R - r = 7 \text{ cm}$ (i) (given)

ATQ,

$\pi R^2 - \pi r^2 = 286$

$\pi(R^2 - r^2) = 286$

$R^2 - r^2 = \frac{286}{22} \times 7$

$$(R + r)(R - r) = 91$$

$$(R + r)(7) = 91 \quad [\because (R - r) = 7 \text{ cm}]$$

$$R + r = \frac{91}{7} = 13 \quad \dots\dots(ii)$$

Adding equation (i) and (ii), we get

$$\begin{array}{r} R - r = 7 \\ R + r = 13 \\ \hline 2R = 20 \end{array}$$

$$R = \frac{20}{2} = 10 \text{ cm}$$

Put the value of R in equation (i),

$$R - r = 7$$

$$10 - r = 7$$

$$r = 10 - 7 = 3 \text{ cm}$$

\therefore Radii of circles are 10 cm and 3 cm.

54. (A) Let the amount given at 8% be ₹ x.

\therefore Amount given at $\frac{4}{3}\%$ = ₹ (20000 - x)

ATQ,

$$\frac{x \times 8 \times 1}{100} + \frac{(20000 - x) \times 4 \times 1}{3 \times 100} = 800$$

$$\frac{8x}{100} + \frac{80000 - 4x}{300} = 800$$

$$24x - 4x + 80000 = 240000$$

$$20x = 160000$$

$$x = \frac{160000}{20} = ₹ 8000$$

55. (C) $x^3 - x^2 - 4$

$$x^3 - 2x^2 + x^2 - 4$$

$$x^2(x - 2) + (x - 2)(x + 2)$$

$$(x - 2)(x^2 + x + 2)$$

56. (C) Let the ratio of number of one rupee coins, 50 paise coins and 25 paise coins be 2x, 3x and 10x respectively.

ATQ,

$$2x + \frac{3x}{2} + \frac{10x}{4} = ₹ 336$$

$$8x + 6x + 10x = 336 \times 4$$

$$24x = 336 \times 4$$

$$x = \frac{336 \times 4}{24} = 56$$

\therefore Number of 50 paise coins = $56 \times 3 = 168$

57. (B) Let the CP of shirt be ₹ 100.

$$\therefore SP = 100 \times \frac{120}{100} = ₹ 120$$

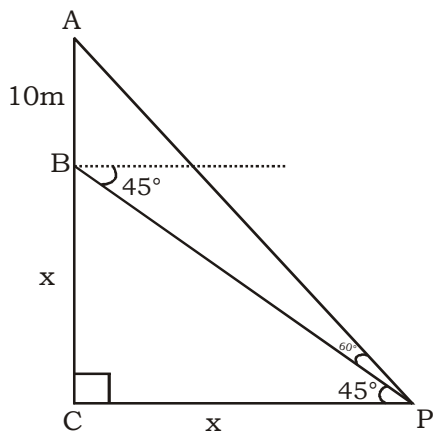
$$MP = \frac{120}{75} \times 100 = ₹ 160$$

$$\text{Profit} = 120 - 100 = ₹ 20$$

$$\therefore 20 \text{ unit} \rightarrow 60$$

$$\therefore 100 \text{ unit} \rightarrow \frac{60}{20} \times 100 = ₹ 300$$

58. (B)



Let BC is a tower and its height is x and AB is a pole.

In $\triangle BCP$,

$$\tan 45^\circ = \frac{BC}{CP}$$

$$1 = \frac{x}{CP}$$

$$CP = x \text{ m}$$

In $\triangle ACP$,

$$\tan 60^\circ = \frac{AC}{CP}$$

$$\sqrt{3} = \frac{10 + x}{x}$$

$$\sqrt{3}x = 10 + x$$

$$\sqrt{3}x - x = 10$$

$$x(\sqrt{3} - 1) = 10$$

$$x = \frac{10}{\sqrt{3} - 1} \times \frac{\sqrt{3} + 1}{\sqrt{3} + 1} = \frac{10(\sqrt{3} + 1)}{2}$$

$$= 5(\sqrt{3} + 1) = 5(1.232 + 1)$$

$$= 5 \times 2.732 = 13.66 \text{ m}$$

59. (D) $\frac{\sec^2 54^\circ - \cot^2 36^\circ}{\operatorname{cosec}^2 57^\circ - \tan^2 33^\circ} + 2 \sin^2 38^\circ \sec^2 52^\circ - \sin^2 45^\circ$

$$\frac{\sec^2 54^\circ - \cot^2 (90^\circ - 54^\circ)}{\operatorname{cosec}^2 57^\circ - \tan^2 (90^\circ - 57^\circ)} + 2 \sin^2 38^\circ \sec^2 (90^\circ - 38^\circ) - \sin^2 45^\circ$$

$$\frac{\sec^2 54^\circ - \tan^2 54^\circ}{\operatorname{cosec}^2 57^\circ - \cot^2 57^\circ} + 2 \sin^2 38^\circ \cdot \operatorname{cosec}^2 38^\circ - \sin^2 45^\circ$$

$$\frac{1}{1} + 2 - \left(\frac{1}{\sqrt{2}}\right)^2 = 3 - \frac{1}{2} = \frac{5}{2}$$

60. (B) Mean proportion of $\frac{a-b}{a+b}$ and $\frac{a^2b^2}{a^2-b^2} = \sqrt{\frac{a-b}{a+b} \times \frac{a^2b^2}{a^2-b^2}}$

$$= \sqrt{\frac{(a-b)a^2b^2}{a+b(a+b)(a-b)}} = \frac{ab}{a+b}$$

61. (A) Downstream speed (u) = $\frac{D}{T} = \frac{7}{35} \times 60 = 12 \text{ km/h}$

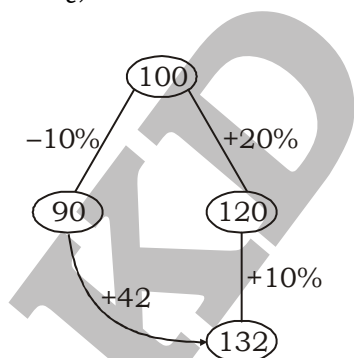
Upstream speed (v) = $\frac{D}{T} = \frac{2}{30} \times 60 = 4 \text{ km/h}$

Speed of boat in still water = $\frac{1}{2}(u+v) = \frac{1}{2}(12+4) = 8 \text{ km/h}$

Speed of stream = $\frac{1}{2}(u-v) = \frac{1}{2}(12-4) = 4 \text{ km/h}$

62. (C) Let the cost price of the article = ₹ 100

ATQ,



Original Profit = 20%

New Profit = $\frac{42}{90} \times 100 = 46.66\%$

Change in profit percentage = $\frac{(46.66 - 20)}{20} \times 100 = 133.33\%$

63. (D) Let the rate of interest per annum be $r\%$

According to the question,

$$\frac{10000 \times 2 \times r}{100} + \frac{6000 \times 4 \times r}{100} = 4400$$

$$200r + 240r = 4400$$

$$440r = 4400$$

$$r = \frac{4400}{440} = 10\%$$

64. (B) Total age of 40 old students = $40 \times 15 = 600$ years

Total age of 40 old and 10 new students = $50 \times 15.2 = 760$ years

Total age of 10 new students = $760 - 600 = 160$ years

$$\therefore \text{Required average age} = \frac{160}{10} = 16 \text{ years}$$

65. (D) According to question,

$$200 \times 31 = 27 \times 200 + 80 \times D$$

$$4 \times 200 = 80 \times D$$

$$D = 10 \text{ days}$$

$$\text{Extra days} = (10 - 4) = 6 \text{ days}$$

66. (A) Given

$$a - b = 6$$

$$b - c = -2$$

$$c - a = -4$$

We know that

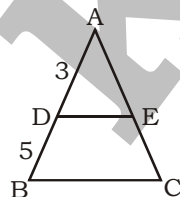
$$a^3 + b^3 + c^3 - 3abc = \frac{1}{2} (a + b + c) [(a - b)^2 + (b - c)^2 + (c - a)^2]$$

$$\frac{a^3 + b^3 + c^3 - 3abc}{a + b + c} = \frac{1}{2} ((a - b)^2 + (b - c)^2 + (c - a)^2)$$

$$\frac{a^3 + b^3 + c^3 - 3abc}{a + b + c} = \frac{1}{2} (6^2 + (-2)^2 + (-4)^2)$$

$$\frac{a^3 + b^3 + c^3 - 3abc}{a + b + c} = \frac{1}{2} (36 + 4 + 16) = 28$$

67. (A)

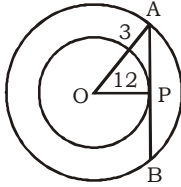


$$\text{Area of trapezium} = \text{Area of } \triangle ABC - \text{Area of } \triangle ADE = 8^2 - 3^2$$

$$= 64 - 9 = 55$$

$$\text{Required ratio} = 64 : 55$$

68. (B)



$$AP = \sqrt{13^2 - 12^2} = \sqrt{25} = 5 \text{ cm}$$

$$\text{Chord } AB = 2 \times 5 = 10 \text{ cm}$$

$$\text{Length of } \frac{4}{5}^{\text{th}} \text{ of chord} = \frac{4}{5} \times 10 = 8 \text{ cm}$$

69. (D) Number of cones = $\frac{\text{Volume of sphere}}{\text{Volume of cone}} = \frac{\frac{4}{3} \pi (10.5)^3}{\frac{1}{3} \pi (3.5)^2 \times 3}$

$$= \frac{4 \times 10.5 \times 10.5 \times 10.5}{3.5 \times 3.5 \times 3} = 126$$

70. (C) $a = 3 + 2\sqrt{3}$

$$ab = 1$$

$$\therefore b = \frac{1}{3 + 2\sqrt{2}} = 3 - 2\sqrt{2} = \frac{1}{a}$$

$$a + b = a + \frac{1}{a} = 6$$

$$\therefore a^2 + \frac{1}{a^2} = 6^2 - 2 = 34$$

$$= \frac{a^2 + b^2 + 3ab}{a^2 + b^2 - 3ab} = \frac{a^2 + \frac{1}{a^2} + 3}{a^2 + \frac{1}{a^2} - 3}$$

$$= \frac{34 + 3}{34 - 3} = \frac{37}{31}$$

71. (A) $\frac{1}{2} \times \pi r^2 = \pi (r - n)^2$

$$\frac{1}{2} r^2 = (r - n)^2$$

$$r = \sqrt{2} (r - n)$$

$$r = \sqrt{2} r - \sqrt{2} n$$

$$r(\sqrt{2} - 1) = \sqrt{2} n$$

$$r = \frac{\sqrt{2} n}{\sqrt{2} - 1}$$

72. (A) Let total voters be 100%

$$\text{Vote cast} = 100\% - 10\% = 90\%$$

$$\text{Valid votes} = 90\% \times \frac{80}{100} = 72\%$$

$$\text{Winner} = 40\%$$

$$\text{Looser} = 72\% - 40\% = 32\%$$

$$8\% = 3600$$

$$100\% = \frac{3600}{8} \times 100 = 45000$$

73. (A) Population in 1971 = 54.80 crores

$$\text{Population in 1981} = 68.40 \text{ crores}$$

$$\text{Increase} = (68.40 - 54.80) \text{ crores} = 13.6 \text{ crores}$$

$$\therefore \text{Increase}\% = \frac{13.6}{54.80} \times 100 = 24.8\%$$

74. (D) Percentage increase in 1981 = 24.8% (From Q 73)

$$\text{Percentage increase in 1971} = \left(\frac{54.80 - 43.92}{43.92} \right) \times 100 = 24.77\%$$

Hence, increase is highest in 1981.

75. (A) Total increase = (68.40 - 27.90) crores = 40.5 crores

$$\therefore \text{Annual increase} = \frac{40.5}{50} \text{ crores}$$

$$= \frac{40.5 \times 10000000}{50} = 8100000$$

MEANINGS IN ALPHABETICAL ORDER

Apportion	divide and allocate	बांटना
Aptly	with competence	कुशलतापूर्वक
Ballad	a poem or song narrating a story in short stanzas	कथागीत
Christen	to name and dedicate	नामकरण करना
Diverge	(of a road, route, or line) separate from another route	बँट जाना
Elicit	evoke or draw out (a response, answer, or fact) from someone in reaction to one's own actions or questions	प्रतिक्रिया प्राप्त करना
Evince	reveal the presence of (a quality or feeling)	प्रकट करना, दिखाना
Faint	(of a sight, smell, or sound) barely perceptible	मूर्च्छित होना
Grave	a place of burial for a dead body, typically a hole dug in the ground and marked by a stone or mound	कब्र
Immutability	Not subject to change	अपरिवर्त्यता
Impending	about to happen	निकट का
Indifferent	having no particular interest or sympathy	उदासीन
Inestimable	too great to calculate	विशाल
Infallible	incapable of making mistakes or being wrong	अचूक
Jeopardize	put (someone or something) into a a danger of loss, harm, or failure	जोखिम में डालना
Looming	imminent	निकट का
Lyric	the words of a song	गीत के शब्द
Murmur	a soft, indistinct sound made quietly	बड़बड़ाहट
Objective	a goal	उद्देश्य
Obscure	not discovered or known about	अज्ञात
Ode	a lyric poem in the form of an address to a particular subject, often elevated in style or manner	स्तोत्र
Opportunely	at an opportune time	उचित समय पर
Pertinently	in a relevant way	प्रासंगिकता के साथ
Primary	of chief importance	मुख्य
Raze down	to destroy to the ground	ध्वस्त कर देना
Salvage	save from ruin, destruction, or harm	बचाना
Sheer	nothing other than	केवल
Verdict	a decision on a disputed issue in a civil or criminal case or an inquest	निर्णय
Weal	that which is best for someone or something	हित
Woe	great sorrow or distress	शोक

SSC MOCK TEST - 262 (ANSWER KEY)

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

76. (C) 'In order to' is followed by 'V₁ + ing'. Change 'understanding' into 'understand'.
77. (D) No error
86. (C) In a conditional sentence, sentence starting with 'when' takes a Present Indefinite Tense form.
87. (D) No improvement
90. (A) The correct spelling is 'Murmuring'.
91. (C) The correct spelling is 'Obeisance'.