# SSC MOCK TEST - 250 (SOLUTION)

1. (C) As,

$C \xleftarrow{\text{Opposite}} X$
$T \xleftarrow{\text{Opposite}} G$
$Y \xleftarrow{\text{Opposite}} B$
$R \xleftarrow{\text{Opposite}} I$

Similarly,

$P \xleftarrow{\text{Opposite}} K$
$O \xleftarrow{\text{Opposite}} L$
$N \xleftarrow{\text{Opposite}} M$
$G \xleftarrow{\text{Opposite}} T$

2. (D) As,

$$2\frac{1}{3} = \frac{2\times 3+1}{3} = \frac{7}{3} \xrightarrow{\text{reverse}} \frac{3}{7}$$

Similarly,

$$5\frac{4}{5} = \frac{5\times 5+4}{5} = \frac{29}{5} \xrightarrow{\text{reverse}} \frac{5}{29}$$

3. (C) Road is related to Bus, while Track is related to Train.
4. (D) Lizard, Turtle and Snake are reptile, while Bat is a mammal.
5. (C) (A) $A_1 \xrightarrow{(1)^3} A$

(B) $C_3 \xrightarrow{(3)^3} A$

(C) $D \xrightarrow{\text{Opposite}} W$ (odd)

(D) $B_2 \xrightarrow{(2)^3} H$

6. (B) (A) $542 \rightarrow 5\times 4\times 2 = 40$

(B) $363 \rightarrow 3\times 6\times 3 = 54 \neq 56$

(C) $462 \rightarrow 4\times 6\times 2 = 48$

(D) $632 \rightarrow 6\times 3\times 2 = 36$

7. (B) 5. Road → 3. Roasted → 2. Roaster → 4. Roller → 1. Roped
8. (D) Fullness
9. (A) 3 (×2+2) 8 (×2+3) 19 (×2+4) 42 (×2+5) 89 (×2+6) **184**
10. (D) T S Q (−1, −3) P O M (−1, −3) K J H (−1, −3) Y Z B (−1, +3)

11. (D)

12. (A) $4 \times 3.5 = 14$
$6 \times 3.5 = 21$
$12 \times 3.5 = 42$
$20 \times 3.5 = 70$

13. (D) Row wise,
$24 + 8 + 16 = 48$
$2 + \mathbf{25} + 21 = 48$
$22 + 15 + 11 = 48$
Column wise,
$24 + 2 + 22 = 48$
$8 + \mathbf{25} + 15 = 48$
$16 + 21 + 11 = 48$

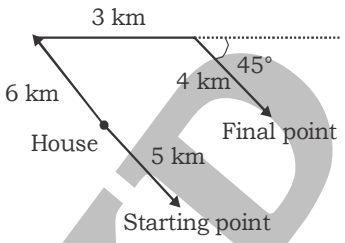
14. (B) As,

$F \xrightarrow{+2} H$
$R \xrightarrow{-2} P$
$A \xrightarrow{+2} C$
$M \xrightarrow{-2} K$
$E \xrightarrow{+2} G$

Similarly,

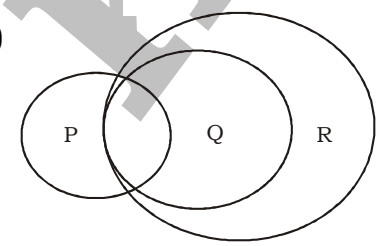
$G \xrightarrow{+2} I$
$R \xrightarrow{-2} P$
$E \xrightarrow{+2} G$
$A \xrightarrow{-2} Y$
$T \xrightarrow{+2} V$

15. (B)




Now he is in South East direction.

16. (A)




I. True II. False III. False
Hence, conclusion I follows.

17. (B) abcaabcaabcaabcaabaa

18. (A) As,

$9 \times 12 - 6^2 = 108 - 36 = 72$

$12 \times 18 - 4^2 = 216 - 16 = 200$

Similarly,

$21 \times 18 - 16^2 = 378 - 256 = 122$

19. (D) Kalu's birthday (Sunday) $\rightarrow$ 2nd April

Total odd days's from 2nd April to 28th October

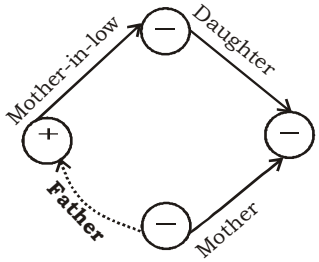
2nd April + May + June + July + August + September + 28th October.

$$= \frac{28}{7} + \frac{31}{7} + \frac{30}{7} + \frac{31}{7} + \frac{31}{7} + \frac{30}{7} + \frac{28}{7}$$

$$= \frac{0+3+2+3+3+2+0}{7} = \frac{13}{7} = 6 \text{ days}$$

$\therefore$ Required day = Sunday + 6 day's = Saturday

20. (D)




21. (C) Now, number of boy in the line = 12 + 6 – 1 = 17

Number of boy to be added = 30 – 17 = 13

22. (B) 23. (C) 24. (C)

25. (C) 12, 87, 95, 34

27. (C) Indian National Army: The Japanese after defeating the British in South East Asia, took a number of Indian soldiers as prisoners of war eg Captain Mohan Singh. In March 1942, a conference of Indian was held in Tokyo, and they formed the Indian Independence League. At the Bangkok conference (June, 1942), Rash Behari Bose was elected President of the League. INA was formed by Mohan Singh. Subhas Chandra Bose had escaped to Berlin in 1941 and set up Indian Legion there. In July 1943, he joined the INA at Singapore. There Rash Behari Bose handed over the leadership to him.

28. (C) Sun is the nearest star and the Alpha Centauri is the second near-est. Alpha Centauri is also called Proximo Centauri.

29. (A) Laterite is a soil and rock type rich in iron and aluminium and is commonly considered to have formed in hot and wet tropical areas.

30. (A) As provided by the constitution, the speaker of the Lok Sabha vacates his office immediately before the first meeting of the newly-elected Lok Sabha. Therefore, the President appoints a member of the Lok Sabha as the Speaker Pro Tern. Usually the senior-most member is selected for this. The President himself administers oath to the Speaker Pro Tern. The Speaker Pro Tern has all the powers of the Speaker. He presides over the first sitting of the newly-elected Lok Sabha. His main duty is to administer oath to the new members. He also enables the House to elect the new Speaker.

31. (C) Photograph invented by Thomas A. Edison in 1877 is used to record as well as reproduce sound.

32. (C) Mahmoud Jibril was the founder of the National Forces Alliance and the former head of the Libyan rebel government that overthrew the country's long-time ruler Muammar Gaddafi in 2011. He had also been the interim leader until Libya conducted its first free elections in 2012.

33. (C) Hydrogen is a combustible gas. It burns in air or oxygen to give water.

34. (B) The pH of blood remains constant and even due to blood buffer systems such as bicarbonates and certain blood proteins. The buffer system are normally made up off of weak acid or their conjugates.

38. (C) The Battle of Plassey was a major battle that took place on 23 June 1757 at Palashi, Bengal. It was an important British East India Company victory over the Nawab of Bengal and his French allies. It was part of the Third Carnatic War, and of the worldwide Seven Years' War in which France and its allies fought Britain and its allies. British victory let the British East India Company take control of the eastern part of the Indian subcontinent

39. (A) The shape of Earth is best described as a 'geoid' meaning Earth-shaped.

40. (B) Economist and former Indian Administrative Service officer N K Singh is the Chairperson of the 15th Finance Commission.

41. (A) This difference proves that the earth is flattened at the poles and is thus, not a perfect sphere. The shape is referred to as 'geoid'.

43. (A) The Speaker of Lok Sabha is elected by the Lok Sabha from amongst its members (as soon as may be, after its first sitting). Whenever the office of the Speaker falls vacant, the Lok Sabha elects another member to fill the vacancy. The date of election of the Speaker is fixed by the President.

44. (D) Diffusion is the spreading - mixing of gases through molecular motion.

46. (D) Union Government is planning to set up a new rocket launch pad near Kulasekarapattinam in Tamil Nadu. At present, the Indian Space Research organisation (ISRO) has two launch pads at Satish Dhawan Space Centre (SDCC) in Sriharikotta, Andhra Pradesh. The development comes on the backdrop of increasing launches from India, both for domestic as well as international customers.

47. (B) An auxanometer (Gr. auxain= "to grow" + metron= "measure") is an apparatus for measuring increase of growth in plants.

48. (C) Apsara became the first nuclear reactor of India in 1956.

49. (A) The constitution authorises the Parliament to form new states or alter the areas, boundaries or names of existing states without their consent. In other words, the Parliament can redraw the political map of India according to its will.

Article-3 lays down two conditions regarding the creation of new states.

(i) a bill contemplating the above changes can be introduced in Parliament only with the prior recommendation of the President; and

(ii) before recommending the bill, the President has to refer the same to the state legislature concerned for expressing its view within a specified period.

The President (or Parliament) is not bound by the views of the state legislature and may either except or reject them, even if the views are received in time.

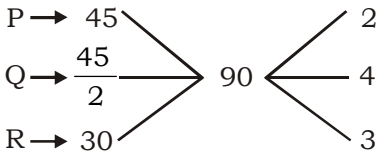
51. (B) Let the efficiency of P be x work/day
Efficiency of Q = (x × 2) = 2x work/day

Efficiency of R = $\left(\frac{x+2x}{2}\right) = \frac{3x}{2}$ work/day

$\text{Total work} = 30 \times \frac{3x}{2} = 45x$

Time taken by P to complete the work $= \frac{45x}{x} = 45$ days

Time taken by Q to complete the work $= \frac{45x}{2x} = \frac{45}{2}$ days




Time taken by P, Q and R together to complete the work $= \frac{90}{2+4+3} = \frac{90}{9} = 10$ days

52. (B) Equivalent discount% = $20\% + 10\% - \frac{20 \times 10}{100}\% = 28\%$

ATQ,
(100 – 28)% = ₹ 1800
72% = ₹ 1800

$100\% = \left(\frac{1800}{72} \times 100\right) =$ ₹ 2500

∴ Marked price of article = ₹ 2500

53. (C) $\frac{\left(10^3+9^3\right)^{512}}{12^3} = \frac{(1000+729)^{512}}{1728}$

$\frac{(1729)^{512}}{1728}$ remainder $\Rightarrow (1)^{512} = 1$

54. (D) Sum of temperature of Sunday + Monday + Tuesday = (30 × 3)°C = 90°C .....(i)
Sum of temperature of Monday + Tuesday + Wednesday = (27 × 3)°C = 81°C .....(ii)
Subtract equation (ii) from (i),
Sunday – Wednesday = 9°C

$\Rightarrow$ Sunday $- \frac{2}{3}$ Sunday = 9°C

$\Rightarrow \frac{\text{Sunday}}{3} = 9°C$

∴ Sunday = 27°C

Temperature of Wednesday = $\left(27° \times \frac{2}{3}\right) = 18°C$

55. (A) Let the Sanjur's salary be ₹ 100

Ankit's salary = ₹ 100 + 50% of 100 = ₹ 150

After increment,

Ankit's salary = ₹ 150 + 30% of ₹ 150 = ₹ 195

Sanjur's salary = ₹ 100 + 25% of ₹ 100 = ₹ 125

$$\text{Required\%} = \left(\frac{195-125}{125}\times 100\right)\% = 56\%$$

56. (C) Principal = ₹ 2000

Rate = 12% p.a

Time = 3 years

$$\text{S.I} = \frac{P\times R\times T}{100} = \left(\frac{2000\times 12\times 3}{100}\right) = ₹\ 720$$

Rate = 10% p.a

$$\text{C.I} = P\left(1+\frac{R}{100}\right)^{T} - P$$

$$= 2000\left(1+\frac{10}{100}\right)^{3} - 2000 = ₹\ 662$$

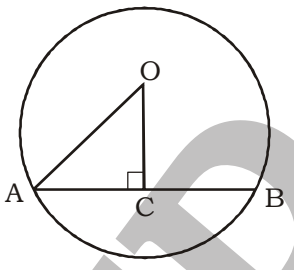
Required difference = ₹ 720 – ₹ 662 = ₹ 58

57. (D) Let 'a' and 'b' be 2x and 3x respectively

$$\therefore \quad \frac{4a+3b}{5a-2b} = \frac{4\times 2x+3\times 3x}{5\times 2x-2\times 3x} = \frac{8x+9x}{10x-6x}$$

$$= \frac{17x}{4x} = \frac{17}{4} = 17:4$$

58. (C)




OC = 7 cm

OA = 25 cm (radius)

AB = chord

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

$\text{In}\,\Delta OAC$,

$OA^2 = AC^2 + OC^2$ (Phythagoras theorem)

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

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

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

AB = 2 × AC = 2 × 24 cm = 48 cm

59. (C) (A) $\sqrt{99}-\sqrt{97}=\dfrac{\left(\sqrt{99}-\sqrt{97}\right)\left(\sqrt{99}+\sqrt{97}\right)}{\sqrt{99}+\sqrt{97}}$

$=\dfrac{99-97}{\sqrt{99}+\sqrt{97}}=\dfrac{2}{\sqrt{99}+\sqrt{97}}$

(B) $\sqrt{26}-\sqrt{24}=\dfrac{\left(\sqrt{26}-\sqrt{24}\right)\left(\sqrt{26}+\sqrt{24}\right)}{\sqrt{26}+\sqrt{24}}$

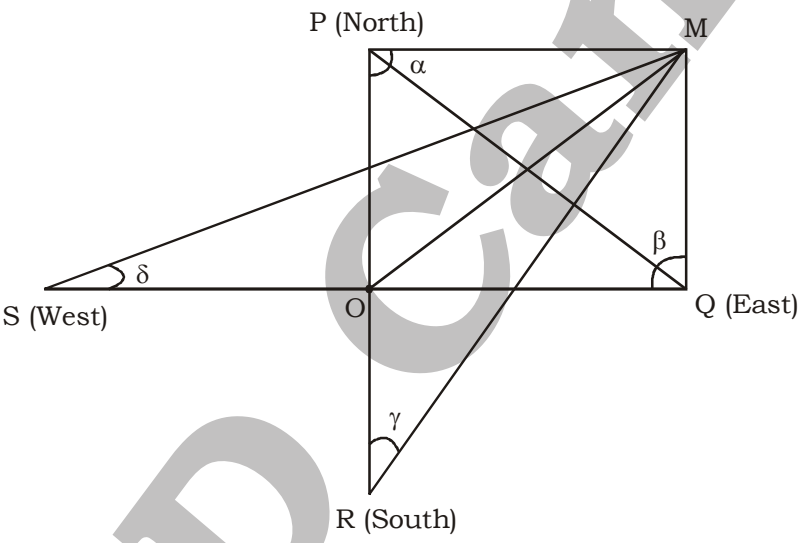
$=\dfrac{26-24}{\sqrt{26}+\sqrt{24}}=\dfrac{2}{\sqrt{26}+\sqrt{24}}$

(C) $\sqrt{3}-1=\dfrac{\left(\sqrt{3}-1\right)\left(\sqrt{3}+1\right)}{\sqrt{3}+1}=\dfrac{3-1}{\sqrt{3}+1}=\dfrac{2}{\sqrt{3}+1}$

(D) $\sqrt{101}-\sqrt{99}=\dfrac{\left(\sqrt{101}-\sqrt{99}\right)\left(\sqrt{101}-\sqrt{99}\right)}{\sqrt{101}+\sqrt{99}}=\dfrac{2}{\sqrt{101}+\sqrt{99}}$

So, the $\sqrt{3}-1$ is greatest number.

60. (C)




Let height of clock tower be h.

In $\Delta OMP$,

$\cot\alpha=\dfrac{OP}{OM}=\dfrac{OP}{h}$

$OP = h\cot\alpha$ .....(i)

In $\Delta OMQ$,

$\cot\beta=\dfrac{OQ}{OM}=\dfrac{OQ}{h}$

$OQ = h\cot\beta$ .....(ii)

In $\Delta POQ$,

$PQ^2 = OP^2 + OQ^2$

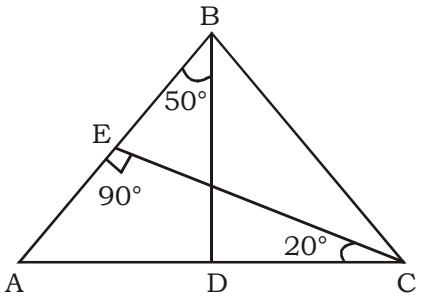
$PQ^2 = h^2 \cot^2\alpha + h^2 \cot^2\beta$

Similarly,

$RS^2 = h^2 \cot^2\gamma + h^2 \cot^2\delta$

So, $\frac{PQ^2}{RS^2} = \frac{\cot^2\alpha + \cot^2\beta}{\cot^2\gamma + \cot^2\delta}$

61. (B)




In $\Delta CAE$,

$\angle CAE = 180° - (90° + 20°)$

= 180° - 110° = 70°

In $\Delta ABD$,

$\angle BDA = 180° - (70° + 50°)$

= 180° - 120° = 60°

62. (A) In radius of circle $= \frac{\text{area of } \Delta}{\text{semiperimeter of } \Delta}$

a = 26; b = 28; c = 30

$s = \frac{a+b+c}{2} = \frac{26+28+30}{2} = \frac{84}{2} = 42\,cm$

Area of $\Delta = \sqrt{s(s-a)(s-b)(s-c)} = \sqrt{42(42-26)(42-28)(42-30)}$

$= \sqrt{14 \times 3 \times 16 \times 14 \times 3 \times 4}$

= (14 × 3 × 4 × 2) $cm^2$ = 336 $cm^2$

In radius of circle $= \left(\frac{336}{42}\right) cm = 8\,cm$

63. (D) $x^4 + \frac{1}{x^4} = 34$

$\left(x^2 + \frac{1}{x^2}\right)^2 - 2 = 34$

$\left(x^2 + \frac{1}{x^2}\right)^2 = 36$

$x^2 + \frac{1}{x^2} = 6$

$\left(x - \frac{1}{x}\right)^2 + 2 = 6$

$\left(x - \frac{1}{x}\right)^2 = 4$

$\left(x - \frac{1}{x}\right) = 2$

Cubing both sides,

$\left(x - \frac{1}{x}\right)^3 = 8$

$x^3 - \frac{1}{x^3} - 3x \times \frac{1}{x}\left(x - \frac{1}{x}\right) = 8$

$x^3 - \frac{1}{x^3} - 3 \times 2 = 8$

$x^3 - \frac{1}{x^3} = 14$

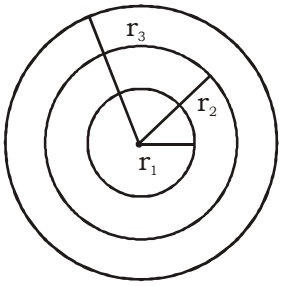
64. (B) Let the number be 5x and 6x respectively.
HCF of number = x
LCM of number = 30x
x = 16
Numbers = (5 × 16), (6 × 16) = 80, 96
Smallest number = 80

65. (A) Average number for which train stop = $\frac{\text{Speed without stoppage} - \text{Speed with stoppage}}{\text{Speed without stoppage}}$

$= \left(\frac{60 - 45}{60}\right)\text{hours} = \frac{15}{60}\text{hours}$

$= \left(\frac{15}{60} \times 60\right)\text{minutes} = 15 \text{ minutes}$

66. (D)




Let the radius of circle be 4x, 5x and 7x.

Area between the two inner circles = $\pi r_2^2 - \pi r_1^2$

= $\pi\left(5^2 - 4^2\right) = 9\pi\,cm^2$

Area between the two outer circles = $\pi r_3^2 - \pi r_2^2$

= $\pi\left(7^2 - 5^2\right) = 24\,\pi\,cm^2$

Required ratio = $(9\pi : 24\pi) = 3 : 8$

67. (B) $5\sin\theta - 3\cos\theta = x$ .....(i)

$3\sin\theta + 5\cos\theta = 5$ .....(ii)

Squaring both equation and adding,

$(5\sin\theta - 3\cos\theta)^2 + (3\sin\theta + 5\cos\theta)^2 = x^2 + 25$

$25\sin^2\theta + 9\cos^2\theta - 30\sin\theta\cos\theta + 9\sin^2\theta + 25\cos^2\theta + 30\sin\theta\cos\theta = x^2 + 25$

$34(\sin^2\theta + \cos^2\theta) = x^2 + 25$

$34 = x^2 + 25$

$x^2 = 34 - 25 = 9$

$x = \sqrt{9} = \pm 3$

68. (D) Ratio of investment of A, B and C = $\frac{1}{4} : \frac{1}{3} : \frac{1}{6} = 3 : 4 : 2$

Let the investment of A, B and C be ₹ 3x, ₹ 4x and ₹ 2x respectively.

Ratio of profit = $\left(3x \times 4 + \frac{3x}{2} \times 8\right) : \left(4x \times 6 + \frac{4x}{3} \times 6\right) : (2x \times 12)$

= 24x : 32x : 24x = 3 : 4 : 3

Profit of A = $₹14000 \times \frac{3}{3+4+3}$ = ₹ 4200

Profit of B = $₹14000 \times \frac{4}{3+4+3}$ = ₹ 5600

Profit of C = $₹14000 \times \frac{3}{3+4+3}$ = ₹ 4200

69. (C) $(a + b + c)^2 = a^2 + b^2 + c^2 + 2(ab + bc + ca)$

$(2)^2 = 26 + 2(ab + bc + ca)$

$4 - 26 = 2(ab + bc + ca)$

$ab + bc + ca = -11$

$a^3 + b^3 + c^3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 - ab - bc - ca)$

$= 2[26 - (-11)] = 2 \times 37 = 74$

70. (A) Speed of boat in downstream = (5 + 1)km/h = 6 km/h

Speed of boat in upstream = (5 – 1)km/h = 4 km/h

Let the distance be 'D' km.

ATQ,

$$\frac{D}{6} + \frac{D}{4} = 1$$

$$\frac{2D + 3D}{12} = 1$$

$$D = \frac{12}{5}\text{km} = 2.4\,\text{km}$$

71. (A) $7.6 - (8.4 \div 1.4 \times 6) + 10 \times 4 \div 1$

$= 7.6 - (6 \times 6) + 40$

$= 7.6 - 36 + 40 = 7.6 + 4 = 11.6$

72. (A) Required% $= \frac{350}{350 + 400 + 450} \times 100$

$$= \left(\frac{350}{1200} \times 100\right)\% = 29.2\%$$

73. (B) Total number of students = 300 + 350 + 275 + 400 + 275 + 250 + 400 + 325 + 375 + 250 + 400 + 450 + 250 + 300 + 500 = 5100

Total number of students in commerce = 250 + 400 + 325 + 375 + 250 = 1600

$$\text{Required\%} = \left(\frac{1600}{5100} \times 100\right)\% = 31.37\%$$

74. (A) Required ratio = (300 + 350 + 275 + 400 + 275) : (250 + 400 + 325 + 375 + 250)

= (1600 : 1600) = 1 : 1

75. (C) Total number of studen ts in all the five colleges = 5100

Total number of students in college B = 1200

$$\text{Required angle} = \left(\frac{1200}{5100} \times 360°\right) = 84.70° \approx 85°$$

# MEANINGS IN ALPHABETICAL ORDER

| | | |
|---|---|---|
| Alimony | a husband's or wife's court-ordered provision for a spouse after separation or divorce | गुजारा–भत्ता |
| Aromatic | having a pleasant and distinctive smell | सुगन्धित |
| Assassin | a murderer of an important person in a surprise attack for political or religious reasons | हत्यारा |
| Befit | be appropriate for | के अनुकूल |
| Clad | clothed | कपड़े पहने हुए |
| Commensurate | corresponding in size or degree; in proportion | (किसी वस्तु) के अनुरूप |
| Condole | express sympathy for (someone) | दु:ख में हमदर्दी दिखाना |
| Console | comfort (someone) at a time of grief or disappointment | सांत्वना देना |
| Fable | a short story, typically with animals as characters, conveying a moral | जानवरों के किरदारों वाली एक नीति कथा |
| Fiasco | a complete failure | असफलता |
| Kleptomaniac | a person who cannot control their desire to steal things, usually because of a medical condition | वह व्यक्ति जो आमतौर पर अपनी चिकित्सीय स्थिति के कारण चीज़ों को चोरी करने की अपनी इच्छा को नियंत्रित नहीं कर सकता हो |
| Optometrist | A person who has a profession of examining the eyes for visual defects and prescribing corrective lenses | आँखों के लिए लेंस बनाने वाला |
| Pantheist | one who practice a doctrine that equates God with the forces and laws of the universe | वह ब्रह्मांड की शक्तियों और उसके को भगवान मानता है |
| Parsimony | extreme unwillingness to spend money or use resources | मितव्ययिता |
| Pedantic | showing much knowledge | पांडित्य पूर्ण |
| Perennial | lasting or existing for a long or apparently infinite time | चिरस्थायी |
| Philanderer | a man who readily or frequently enters into casual sexual relationships with women | स्त्री लोलुप |
| Rhetoric | the art of effective or persuasive speaking or writing | वाकपटु |
| Tart | sharp or acid in taste | खट्टा |
| Verbatim | in exactly the same words | शब्दश: |

# SSC MOCK TEST - 250 (ANSWER KEY)

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

76. (D) No error

77. (A) 'Bacteria' is a plural noun, hence it is followed by a plural verb. Change 'is' into 'are'.

86. (C) Verb 'prefer' is followed by 'to'.

87. (C) No improvement. 'Taxes' is Third Person Plural Noun, therefore, 'they' should be used for it.

90. (B) The correct spelling of 'Optomatrist' is 'Optometrist'.

91. (B) The correct spelling of 'Perenial' is 'Perennial'.