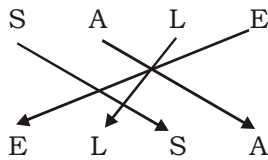
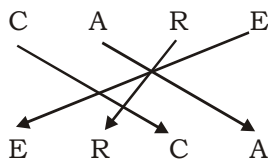


**SSC MOCK TEST - 249 (SOLUTION)**

1. (B) As,



Similarly,



2. (C) As,

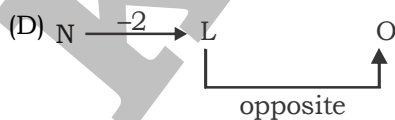
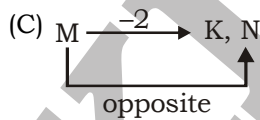
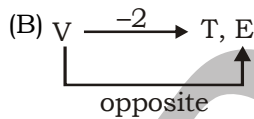
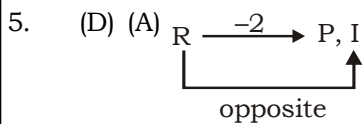
$$1 + 2 + 5 \xrightarrow{8^2} 64$$

Similarly,

$$2 + 5 + 0 \xrightarrow{7^2} 49$$

3. (A) Horse has hoof, while cat has paw.

4. (D) Eye, Nose and skin are sense organs, while heart is not a sense organ.



6. (D) (A) 302 → Number of digits = 3 →  $(3)^3 = 27$

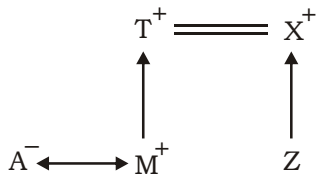
(B) 521 → Number of digits = 3 →  $(3)^3 = 27$

(C) 5231 → Number of digits = 4 →  $(4)^3 = 64$

(D) 63210 → Number of digits = 5 →  $(5)^3 = 125$

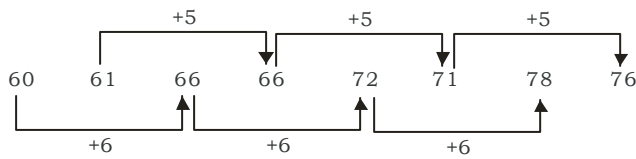
7. (C) 1. Accompany → 2. Account → 3. Acquire → 4. Across → 5. Action

8. (C)



Hence A is sister in law of Z.

9. (B)



10. (A) (A)  $5 \xrightarrow{\times 5} 25 \xrightarrow{\times 2.5} 62.5$

(B)  $8 \xrightarrow{\times 8} 64 \xrightarrow{\times 2.5} 160$

(C)  $6 \xrightarrow{\times 6} 36 \xrightarrow{\times 2.5} 90$

(D)  $10 \xrightarrow{\times 10} 100 \xrightarrow{\times 2.5} 250$

11. (D)

12. (B) From figure I,

$$(1 \times 3 \times 4 \times 2) + (1 + 3 + 4 + 2) = 34$$

From figure II,

$$(4 \times 3 \times 5 \times 7) + (4 + 3 + 5 + 7) = 439$$

From figure III,

$$(3 \times 5 \times 2 \times 3) + (3 + 5 + 2 + 3) = 103$$

13. (C) a b c d a b b c d a b c c d a b c d d

14. (A) As,

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

$$E \xrightarrow{+1} F$$

$$W \xrightarrow{-1} V$$

$$T \xrightarrow{+1} U$$

$$O \xrightarrow{-1} N$$

$$N \xrightarrow{+1} O$$

Similarly,

$$A \xrightarrow{-1} Z$$

$$L \xrightarrow{+1} M$$

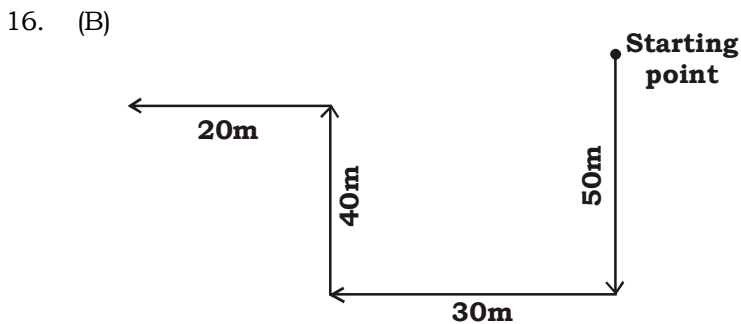
$$B \xrightarrow{-1} A$$

$$E \xrightarrow{+1} F$$

$$R \xrightarrow{-1} Q$$

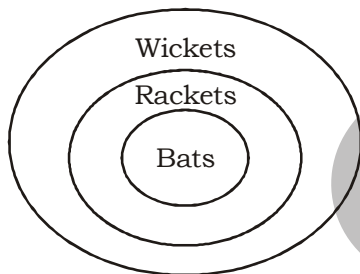
$$T \xrightarrow{+1} U$$

15. (B) From option (B)  
 $8 \times 3 \div 4 + 9 - 5 = 16$   
 After changing,  
 $8 \times 5 \div 4 + 9 - 3 = 16$   
 $8 \times \frac{5}{4} + 9 - 3 = 16$   
 $10 + 9 - 3 = 16$   
 $\therefore 16 = 16$

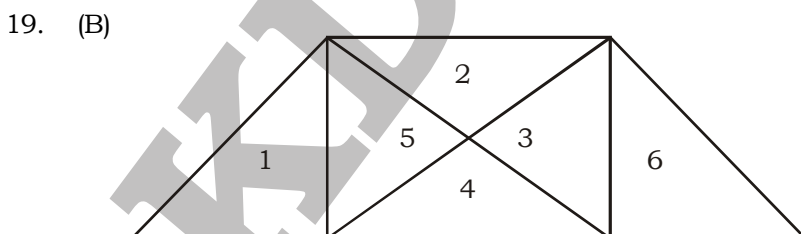


Hence, she is in south-west direction with respect to starting point.

17. (B)  
 18. (A)



- I. True      II. Can't say  
 Hence, option (A) is correct.



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. (B)
23. (C)  $\frac{54}{32} = (5 + 4) - (3 + 2) = 4$
- $$\frac{36}{42} = (3 + 6) - (4 + 2) = 3$$
- $$\frac{92}{22} = (9 + 2) - (2 + 2) = 7$$
- $$\frac{28}{33} = (2 + 8) - (3 + 3) = 4$$
24. (C) 25. (C)
26. (D) During Kanishka's reign, the centre of political activity shifted from Magadha to Purushapura, now Peshawar. The center of the region was the upper Indus and Ganges river valleys that now lie in Iran and India; its capital was the city of Purushapura, now the city of Peshawar in Pakistan.
27. (D) The Battle of Haldighati was fought between Maharana Pratap of Mewar and Mughal army led by Raja Man Singh of Amber and Asaf Khan in 1576. Ranapratap was defeated but he did not submit and continued the struggle.
30. (D) Sir C.D Deshmukh was an Indian civil servant and the first Indian to be appointed as the Governor of the Reserve Bank of India in 1943 by the British Raj authorities. He subsequently served as the Finance Minister in the Union Cabinet (1950-1956).
31. (D) When the difference of temperature is greater, evaporation is quicker.
33. (A) Acute diabetes results in the formation of acetone in the body. Hence such patients smell of acetone.
34. (B) Hormones are secreted by endocrine glands which are otherwise known as ductless glands. The hormones enter the blood stream and are carried to all parts of the body. From the blood the target organs pick up the hormones.
35. (A) The greenhouse effect is a natural process in which certain gases, known as 'greenhouse gases', trap heat that radiates from the earth's surface. These gases are water vapour and carbon dioxide which regulate the radiant energy balance of earth and makes it habitable.
38. (D) Pravasi Bharatiya Divas (PBD) is celebrated on 9th January every year to mark the contribution of Overseas Indian community in the development of India.
39. (D) Martin Cooper invented the first handheld cellular mobile phone in 1973 and led the team that developed it and brought it to market in 1983. He is considered the "father of the cell phone and is also cited as the first person in history to make a handheld cellular phone call in public.
40. (D) In order to promote road safety and reduce vehicular pollution, Rajasthan Transport department is going to observe a "No Vehicle Day" once a month in 2020.
41. (D) The Revolt of 1857 marks a turning point in the History of India. It led to changes in the system of administration and the policy of the Government. The direct responsibility for administration of the country was assumed by the British Crown and East India Company Rule was abolished. The assumption of the Government of India by the Sovereign of Great Britain was announced by Lord Canning in a durbar at Allahabad in the 'Queen's Proclamation' issued on 1 November 1858.

43. (B) The National highways system is the responsibility of Central Government under the National Highways Act, 1956.
44. (C) The judges of a high court are appointed by the President. The Chief Justice is appointed by the President after consultation with the Chief Justice of India and the Governor of the state concerned.
45. (D) Though all living organisms are made of protoplasm each individual has a different composition however slight it be. In identical twins the same cell divides into two and each one develops into one person. So the genetic make-up and type of protoplasm are exactly the same.
46. (C) The BBB recommended the appointment of Ashwani Bhatia as the next Managing Director of State Bank of India. Ashwani Bhatia is currently the Deputy Managing Director in SBI.
47. (B) The melting point in the centigrade scale is  $0^{\circ}\text{C}$ . In the Kelvin it is  $(0 + 273)$  K or 273 K.
48. (C) Gasoline (petrol) is a good fuel for internal combustion (IC) engines. Kerosene is a fuel for domestic kerosene stoves. As denatured spirit, alcohol is used as fuel in spirit lamps. Sulphuric acid is not a fuel.

51. (A) 25% loss on SP means =  $\frac{1}{4}$

$$\text{S.P} = 4, \text{ loss} = 1$$

$$\therefore \text{C.P} = \text{S.P} + \text{loss}$$

$$\text{C.P} = 4 + 1 = 5$$

$$\begin{array}{c} \text{C.P} \\ 5 \\ \downarrow 12\% \\ 5 \times \frac{12}{100} = \frac{3}{5} \end{array}$$

$$\begin{array}{c} \text{S.P} \\ 4 \\ \downarrow 12\% \\ 4 \times \frac{12}{100} = \frac{12}{25} \end{array}$$

$$\text{New C.P} = 5 - \frac{3}{5} = \frac{22}{5}$$

$$\text{New S.P} = 4 - \frac{12}{25} = \frac{88}{25}$$

$$\text{Loss} = \frac{22}{5} - \frac{88}{25} = \frac{110 - 88}{25} = \frac{22}{25}$$

$$\text{Loss}\% = \left( \frac{22}{25} \div \frac{22}{5} \right) \times 100 = \frac{22}{25} \times \frac{5}{22} \times 100 = 20\%$$

52. (D) Time = 2 years  
Rate = 12.5%

$$= \frac{125}{100} = \frac{1}{8}$$

$$\frac{9}{8} \rightarrow \text{Installment}$$

$$\frac{8}{8} \rightarrow \text{Amount}$$

	Amount	Installment
I <sup>st</sup> year	$8_{\times 9}$	$9_{\times 9}$
II <sup>nd</sup> year	64	81

Installment is same in both case.

	Amount	Installement
<b>1<sup>st</sup> year</b>	72	81
<b>2<sup>nd</sup> year</b>	64	81
	136	

ATQ,

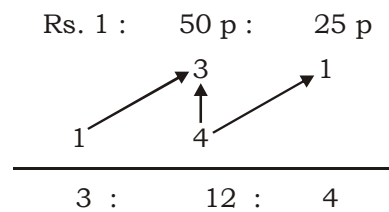
81 unit = ₹ 32400

$$1 \text{ unit} = \frac{32400}{81} = 400$$

136 unit =  $136 \times 400 = ₹ 54400$

Required price = ₹ (54400 + 32400) = ₹ 86800

53. (A)



No. of coins → 3x : 12x : 4x

$$\text{Value of coins} = 3x \times 1 : 12x \times \frac{1}{2} : 4x \times \frac{1}{4}$$

$$3x : 6x : x$$

Total value = 10x

According to question,

$$10x = 90$$

$$x = \frac{90}{10} = 9$$

Number of 25 paise coins =  $9 \times 4 = 36$

54. (C) Increase in population = (12500 - 10000) = 2500

$$\text{Percentage increment} = \frac{2500}{10000} \times 100 = 25\%$$

Use alligation method:

	Male	Female
	33%	13%
		25%
	12	8
Ratio of males and females →	3	2

$$\text{Hence required population of females before increase} = \frac{10000}{(3+2)} \times 2 = 4000$$

55. (B)  $95x342y2$

$\therefore 36 = 4 \times 9$

4  $\rightarrow$  A number is divisible by 4, when last two digits are divided by 4.

9  $\rightarrow$  A number is divisible by 9, when sum of their digit are divided by 9.

Possible value of  $y = 1$

and possible value of  $x = 9 + 5 + x + 3 + 4 + 2 + 1 + 2 = 26 + x$

Number is divisible by 9, then sum is also divisible by 9.

Then,  $26 + x = 27$

$x = 1$

$\therefore (2x - y) = (2 \times 1 - 1) = 1$

56. (A) ATQ,

Numbers between 0 and 48 is divisible by 2 and 3 are 6, 12, 18, 24, 30, 36, 42.

Average =  $6 + 12 + 18 + 24 + 30 + 36 + 42 = \frac{168}{7} = 24$

57. (A)

	Total work	
P $\rightarrow$ 12	36	3
Q $\rightarrow$ 18	36	2

(P + Q)'s one day work is (3 + 2) unit

(P + Q)'s 6 day work is  $5 \times 6 = 30$  unit

Work left =  $36 - 30 = 6$  unit

Fraction of work left =  $\frac{\text{Work left}}{\text{Total work}} = \frac{6}{36} = \frac{1}{6}$

58. (C)  $4^{x+4} \times 16^{3x-5} = 64^{3x}$

$4^{x+4} \times (4)^{2(3x-5)} = (4)^{3(3x)}$

Base is equal,

$\therefore x + 4 + 2(3x - 5) = 9x$

$x + 4 + 6x - 10 = 9x$

$7x - 6 = 9x$

$-2x = 6$

$x = -3$

59. (C) M.P of article = ₹ 600

Discount = 25%

S.P of article =  $600 - 600 \times \frac{25}{100} = ₹ 450$

C.P of article =  $\frac{450}{90} \times 100 = ₹ 500$

New S.P = ₹ 530

Profit =  $530 - 500 = ₹ 30$

Profit % =  $\frac{30}{500} \times 100 = 6\%$

60. (B)  $\sqrt{x} + \frac{1}{\sqrt{x}} = 3\sqrt{3}$

Squaring both side,

$$x + \frac{1}{x} + \frac{2\sqrt{x}}{\sqrt{x}} = 27$$

$$x + \frac{1}{x} = 25$$

Again squaring both side,

$$x^2 + \frac{1}{x^2} + 2x \cdot \frac{1}{x} = 625$$

$$x^2 + \frac{1}{x^2} = 623$$

61. (A) If  $\angle RQS$  and  $\angle QRT$  in external bisectors, then

$$\angle QOR = 90^\circ - \frac{\angle P}{2}$$

$$\angle QOR = 90^\circ - \frac{60^\circ}{2}$$

$$\angle QOR = 60^\circ$$

62. (B)  $\frac{1}{\sec \theta - 1} + \frac{1}{\sec \theta + 1} = 2 \operatorname{cosec} \theta$

$$\frac{\sec \theta + 1 + \sec \theta - 1}{(\sec \theta - 1)(\sec \theta + 1)} = 2 \operatorname{cosec} \theta$$

$$\frac{2 \sec \theta}{\sec^2 \theta - 1} = 2 \operatorname{cosec} \theta \quad [\sec^2 \theta - \tan^2 \theta = 1]$$

$$\frac{2 \sec \theta}{\tan^2 \theta} = 2 \operatorname{cosec} \theta$$

$$\frac{\cos^2 \theta}{\cos \theta \cdot \sin^2 \theta} = \operatorname{cosec} \theta$$

$$\frac{\cos \theta}{\sin \theta} = \sin \theta \cdot \operatorname{cosec} \theta$$

$$\cot \theta = 1$$

$$\theta = 45^\circ$$

$$(\sin \theta + \operatorname{cosec} \theta) = (\sin 45^\circ + \operatorname{cosec} 45^\circ) = \frac{1}{\sqrt{2}} + \sqrt{2} = \frac{1+2}{\sqrt{2}} = \frac{3}{\sqrt{2}} = \frac{3\sqrt{2}}{2}$$



63. (B) Downstream speed = D  
Upstream speed = U  
ATQ,

$$\frac{6.6}{D} + \frac{2.4}{U} = 18 \quad \dots\dots(i)$$

$$\frac{1.1}{D} + \frac{0.3}{U} = 2 \quad \dots\dots(ii)$$

Multiply equation (ii) by 6, then

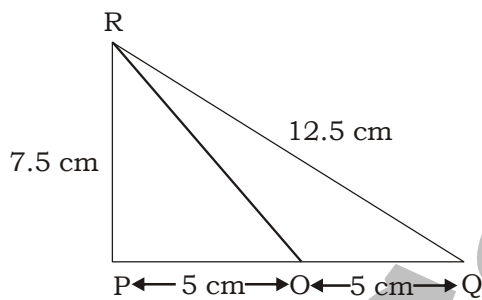
$$\frac{6.6}{D} + \frac{1.8}{U} = 12 \quad \dots\dots(iii)$$

Solving equation (i) and (iii) we get,

$$\frac{0.6}{U} = 6$$

$$U = 10 \text{ Km/h}$$

64. (C)



In  $\Delta PQR$ ,

$$(PR)^2 + (PQ)^2 = (QR)^2$$

$$(PQ)^2 = (QR)^2 - (PR)^2$$

$$(12.5)^2 - (7.5)^2$$

$$156.25 - 56.25 = 100$$

$$PQ = 10 \text{ cm}$$

In  $\Delta RPO$ ,

$$(RP)^2 + (PO)^2 = (RO)^2$$

$$(7.5)^2 + (5)^2 = (RO)^2$$

$$(RO)^2 = 81.25$$

$$RO = \frac{5\sqrt{13}}{2}$$

65. (A)  $4 \sec^2 \theta - 8 \tan^2 \theta = 4$

$$4(\sec^2 \theta - \tan^2 \theta) - 4 \tan^2 \theta = 4$$

$$4 - 4 \tan^2 \theta = 4 \quad (\because \sec^2 \theta - \tan^2 \theta = 1)$$

$$4 \tan^2 \theta = 0$$

$$\tan^2 \theta = 0$$

$$\therefore \tan \theta = 0$$

66. (B) Diameter of sector = 21 m

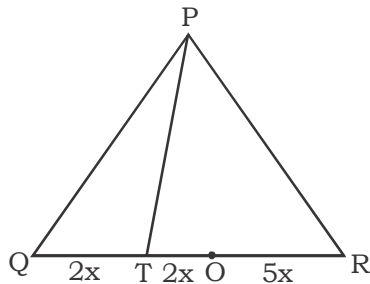
$$\text{Radius of sector} = \frac{21}{2} \text{ cm}$$

$$\text{Circumference of sector} = \frac{\theta}{360^\circ} \times 2\pi r + 2r$$

$$= \left( \frac{120^\circ}{360^\circ} \times 2 \times \frac{22}{7} \times \frac{21}{2} + 2 \times \frac{21}{2} \right)$$

$$= (22 + 21) \text{ cm} = 43 \text{ cm}$$

67. (D)



Let  $h$  is the height of triangle.

$$\text{Area of triangle} = \frac{1}{2} \times \text{Base} \times \text{Height}$$

ATQ,

$$\frac{\text{Ar}(\Delta PQT)}{\text{Ar}(\Delta PQR)} = \frac{\frac{1}{2} \times 2x \times h}{\frac{1}{2} \times 9x \times h}$$

$$\frac{\text{Ar}(\Delta PQT)}{\text{Ar}(\Delta PQR)} = \frac{2}{9} = 2 : 9$$

68. (D)  $x + y + z = 5$  .....(i)

$$x^2 + y^2 + z^2 = 49$$
 .....(ii)

Squaring of equation (i) both sides,

$$(x + y + z)^2 = (5)^2$$

$$x^2 + y^2 + z^2 + 2(xy + yz + zx) = 25$$

$$49 + 2(xy + yz + zx) = 25$$

$$xy + yz + zx = \frac{-24}{2}$$

$$xy + yz + zx = -12$$

$$\therefore x^3 + y^3 + z^3 - 3xyz = (x + y + z) (x^2 + y^2 + z^2 - xy - yz - zx)$$

$$= 5 \times [49 - (-12)] = 5 \times 61 = 305$$

69. (C)  $\frac{8}{9}$  of  $\left(5\frac{1}{4} \div 2\frac{1}{3}$  of 4)  $\div$   $\left(8 \div \frac{2}{3}$  of  $\frac{4}{5}$ ) of  $\left(8 \times \frac{2}{3} \div \frac{4}{5}\right)$

$$= \frac{8}{9} \text{ of } \left(\frac{21}{4} \div \frac{7}{3} \text{ of } 4\right) \div \left(8 \div \frac{2}{3} \text{ of } \frac{4}{5}\right) \text{ of } \left(8 \times \frac{2}{3} \times \frac{5}{4}\right)$$

$$= \frac{8}{9} \text{ of } \left(\frac{21}{4} \times \frac{3}{28}\right) \div \left(8 \times \frac{15}{8}\right) \text{ of } \frac{20}{3}$$

$$= \frac{8}{9} \text{ of } \frac{9}{16} \div 15 \text{ of } \frac{20}{3} = \frac{1}{2} \div 100$$

$$= \frac{1}{2} \times \frac{1}{100} = \frac{1}{200}$$

70. (D) Length of cuboid =  $(3 \times 6)$  cm = 18 cm

Breadth of cuboid = 3 cm

Height of cuboid = 3 cm

Total surface area of cuboid =  $2(lb + bh + lh)$

$$= 2(18 \times 3 + 3 \times 3 + 18 \times 3) \text{cm}^2$$

$$= 2(54 + 9 + 54) \text{cm}^2$$

$$= 2 \times 117 = 234 \text{ cm}^2$$

71. (A) Total production of Apple during 2015 to 2018 =  $47 + 55 + 58 + 54 = 214$

Total production of phones in 2019 =  $64 + 66 + 72 + 66 + 62 = 330$

$$\text{Required\%} = \left(\frac{330 - 214}{330} \times 100\right) = \left(\frac{116}{330} \times 100\right) \approx 35\%$$

72. (A) Average production of Moto from 2015 to 2019 =  $\frac{48 + 47 + 50 + 61 + 64}{5} = \frac{270}{5} = 54$

$$\text{Average production of Jio from 2015 to 2019} = \frac{52 + 58 + 62 + 66 + 72}{5} = \frac{310}{5} = 62$$

Required difference =  $62 - 54 = 8$

73. (C) Total production of Samsung phone =  $60 + 53 + 56 + 65 + 66 = 300$

$$\text{Required angle} = \left(\frac{60}{300} \times 360\right) = 72^\circ$$

74. (A) Total production of Moto in 2019 and Samsung in 2017 =  $64 + 56 = 120$

Total production of Apple and Vivo in 2015 =  $47 + 43 = 90$

$\therefore$  Required ratio =  $120 : 90 = 4 : 3$

75. (C) HCF of fraction =  $\frac{\text{HCF of numerator}}{\text{LCM of denominator}} = \frac{\text{HCF of } 2, 4, 10 \text{ and } 8}{\text{LCM of } 3, 7, 7 \text{ and } 15} = \frac{2}{105}$

## MEANINGS IN ALPHABETICAL ORDER

Autonomy	the right or condition of self-government	स्वयं शासन
Blatant	(of bad behavior) done openly and unashamedly	मुखर
Broad	having an ample distance from side to side; wide	विस्तृत
Calligrapher	someone skilled in penmanship	सुंदर लिखावट वाला व्यक्ति
Cannibalism	act of feeding on human flesh	नरमांस-भक्षण
Cartographer	a person who draws or produces maps.	वह व्यक्ति जो मानचित्र बनाता हो
Concede	admit that something is true or valid	स्वीकार करना
Confer	grant or bestow (a title, degree, benefit, or right)	उपाधि प्रदान करना
Confide	tell someone about a secret or private matter	गुप्त बात कहना
Confined	limited to a certain extent	सीमित
Connoisseur	A critical judge of any art and craft	विशेषज्ञ
Constituent	a component part of something	घटक
Contemporaries	Persons living at the same time	समकालीन
Convalescent	One who is recovering health after illness	स्वास्थ्य प्रदान करने वाला व्यक्ति
Cynosure	One who is a centre of attraction	आकर्षण बिंदु
Debonair	A person having a sophisticated charm	सुशील व्यक्ति
Demagogue	A leader who sways his followers by his oratory	वाक-चातुर्य जननेता
Denominator	a divisor	भाजक
Dilettante	A dabbler (not serious) in art, science and literature	(कला, विज्ञान और साहित्य आदि के मामले में) शौकिया, अनाड़ी
Exaggerated	regarded or represented as larger, better, or worse than in reality	अतिशयोक्तिपूर्ण
Exemplary	serving as a desirable model	अनुकरणीय
Futile	incapable of producing any useful result	व्यर्थ
Magnitude	the great size or extent of something	परिमाण, मात्रा
Parity	the state or condition of being equal	समता
Valour	great courage in the face of danger	साहस
Vociferously	in a loud and forceful manner	तेज आवाज में

**SSC MOCK TEST - 249 (ANSWER KEY)**

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

76. (B) Since the indirect speech is in past tense, 'is' should be changed into 'was'.
77. (C) 'is' should be changed into 'are', as the subject is plural.
87. (B) 'A few' is used with countable nouns. e.g- rats.
90. (B) The correct spelling of 'Convelescent' is 'Convalescent'.
91. (B) The correct spelling of 'Demogogue' is 'Demagogue'.