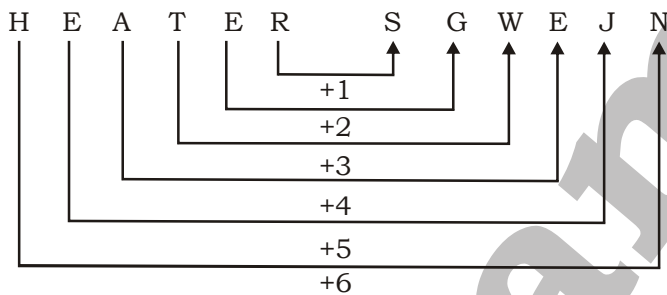
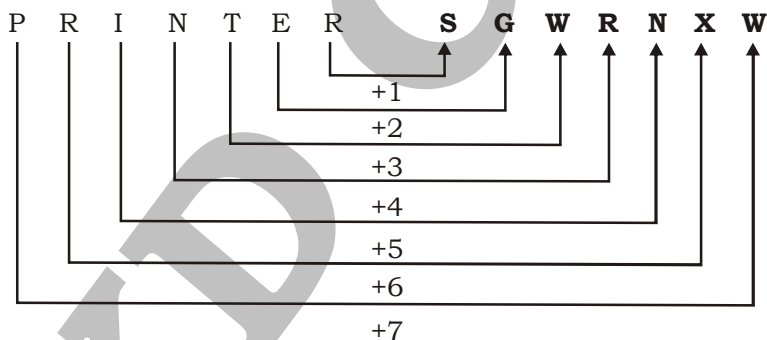


SSC MOCK TEST - 439 (SOLUTION)

1. (1) As, $2389 \Rightarrow 89 - 23 = 66 \Rightarrow 6 + 6 = 12$
Similarly, $2885 \Rightarrow 85 - 28 = 57 \Rightarrow 5 + 7 = 12$
2. (4) First is the synonym of second.
3. (3) (1) $11121 \Rightarrow 11^2 = 121$
(2) $13169 \Rightarrow 13^2 = 169$
(3) $19361 \Rightarrow 19^2 = 361 \neq 324$
(4) $17289 \Rightarrow 17^2 = 289$
4. (3) Except FT, others are pairs of reverse letters.
5. (3) As,



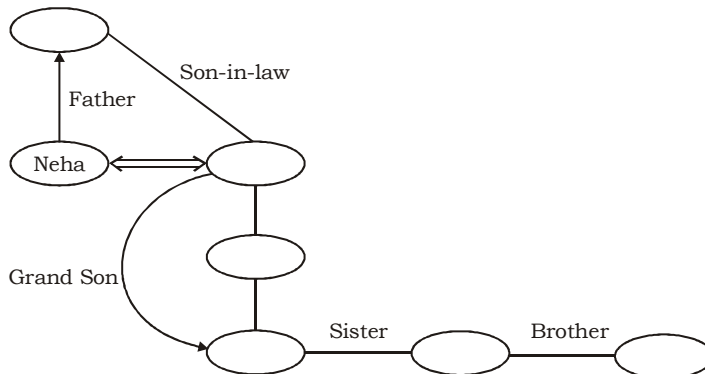
Similarly,



6. (4) $1256 - 12^2 = 1112$
 $1112 - 13^2 = 943$
 $943 - 14^2 = 747$
 $747 - 15^2 = 522$
 $522 - 16^2 = \mathbf{266}$

7. (3) X W U R N I
-1 -2 -3 -4 -5

8. (3)



Hence, the man is grandson of Neha.

9. (3)

As, $45 \times 3 = 135$

$45 \times 5 = 225$

Similarly, $69 \times 3 = 207$

$69 \times 5 = 345$

10. (3)

qpltr/qpltr/qpltr/qpltr

11. (2)

12. (4)

In the first column,

$$(15 - 6)^2 - 1 = 80$$

In the second column,

$$(17 - 8)^2 - 1 = 80$$

In the third column,

$$(21 - 13)^2 - 1 = 63$$

13. (4)

$$198 + 11 \times 15 \div 16 - 25 = 261$$

After changing + and ÷,

$$198 \div 11 \times 15 + 16 - 25 = 261$$

$$18 \times 15 + 16 - 25 = 261$$

$$286 - 25 = 261$$

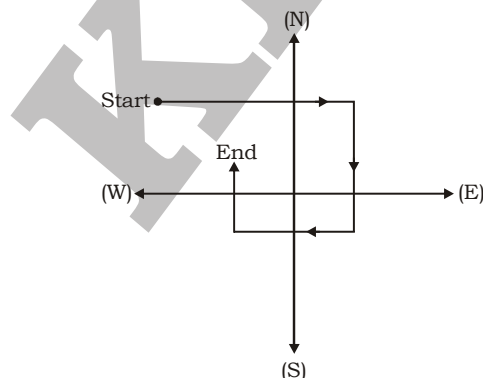
$$261 = 261$$

14. (2)

Clearly, the last bell rang 45 minutes before 7.45 AM. i.e., at 7.00 AM. But it happened five minutes before the priest gave the information to the devotee.

So, the information was given at 7.05 AM.

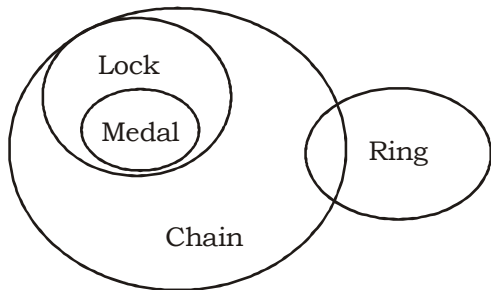
15. (2)



Clearly, Rohan is facing towards the North.

16. (3) 2. Hypocrite → 1. Hypodermic → 5. Hypotenuse → 4. Hypothermia → 3. Hysterical

17. (4)



I. True II. False III. False

Hence, only conclusion I follows.

18. (4) 19. (2)

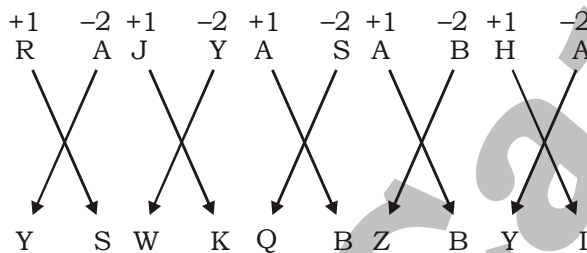
20. (3) As, $196 \Rightarrow 1 + 9 + 6 = 16$

$$(196 - 16 \times 5) = 116$$

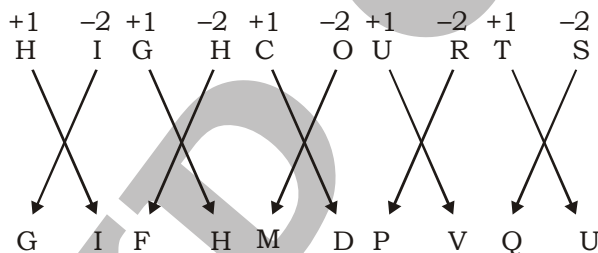
Similarly, $216 \Rightarrow 2 + 1 + 6 = 9$

$$(216 - 9 \times 5) = 171$$

21. (4) As,



Similarly,



22. (1) 23. (3) 24. (3) 25. (1)

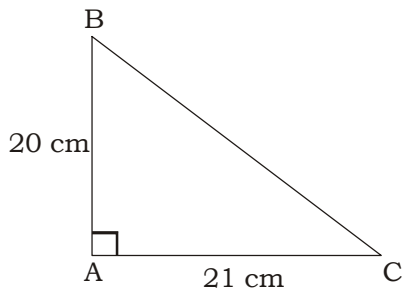
27. (3) Asteroids are small rocky planetoids, while comets are formed of frozen gases held together by rocky and metallic material. Asteroids are found mostly between the orbits of Jupiter and Mars, while comets are found mostly between Venus and Mercury.

28. (2) The indigenous peoples of North Africa are Amazigh or Imazighn, often known as "Berbers". They share a common heritage and linguistic origin with many dialects such as Tachelhit-tamazight- tarifit- taqbaylit- tamacheqt. Among the different Amazigh ethnic groups are the Tuareg nomads of the southern region.

29. (3) The system later came to be known as Panchayati Raj, which was inaugurated by the Prime Minister Pandit Jawaharlal Nehru on 2 October 1959 at Nagour in Rajasthan. The first elections under the Rajasthan Panchayat Samitis and Zilla Parishads Act, 1959 were held in September-October 1959.

30. (3) Air can be separated into its components of air through fractional distillation. In the fractional distillation process, the liquid air is distributed through the fractional distillation column. Here, the liquid air is permissible to warm-up.
31. (3) The Jallianwala Bagh slaughter, otherwise called the Amritsar slaughter, occurred on 13 April 1919, when Acting Brigadier-General Reginald Dyer requested soldiers of the British Indian Army to discharge their rifles into a horde of unarmed Indian civilians in Jallianwala Bagh.
32. (3) Chandrakant Satija, Founder/CEO of Chandra Admission Consultants, received the Global Excellence Award 2024 at a Mumbai ceremony on May 12th.
34. (1) The rise of the Hyksos kings in Egypt was made possible by an influx of immigrants from Palestine into Egypt beginning about the 18th century bce. The immigrants brought with them new technologies, including the horse and chariot, the compound bow, and improved metal weapons.
35. (1) A Japanese consortium unveiled the world's first high-speed 6G prototype gadget, surpassing 5G by 20 times.
36. (2) The most important characteristic of the islands (Indian) located in the Arabian Sea is that they are all of coral origin.
38. (3) The IAEA has its headquarters in Vienna, Austria. The IAEA has two "Regional Safeguards Offices" which are located in Toronto, Canada, and in Tokyo, Japan. The IAEA also has two liaison offices which are located in New York City, United States, and in Geneva, Switzerland.
40. (1) Robert Burns is considered the pioneer of the Romantic Movement. Although his death in 1796 precedes what many consider the start of Romanticism, his lyricism and sincerity mark him as an early Romantic writer. His most notable works are "Auld Lang Syne" (1788) and "Tam o' Shanter" (1791).
41. (4) FIFA was founded in 1904 to oversee international competition among the national associations of Belgium, Denmark, France, Germany, the Netherlands, Spain, Sweden and Switzerland.
42. (2) The Moortidevi Award is an annual literary award in India presented by the Bharatiya Jnanpith organisation for a work which emphasises Indian philosophy and culture.
44. (4) The upthrust or buoyancy is zero in vacuum. Therefore weight is most in vacuum.
46. (4) Kanha National Park was created on 1 June 1955 and was designated a tiger reserve in 1973. Today, it encompasses an area of 940 km² in the two districts Mandla and Balaghat of Madhya Pradesh.
48. (1) Pluto is currently the most distant planet from the Sun, though as you probably know Pluto was "demoted" to dwarf planet status in August 2006.
49. (4) Analytical Engine, generally considered the first computer, designed and partly built by the English inventor Charles Babbage in the 19th century (he worked on it until his death in 1871).
50. (3) IndiaSkills 2024, the nation's largest skill competition, kicked off in New Delhi on May 15, 2024, at Yashobhoomi, Dwarka. Organized by NSDC under MSDE, it spans 61 categories, testing skills nationwide until May 18.

51. (1)



In $\triangle ABC$,

$$BC = \sqrt{21^2 + 20^2}$$

$$= \sqrt{441 + 400} = \sqrt{841} = 29 \text{ cm}$$

$$\sin B = \frac{AC}{BC} = \frac{21}{29}$$

$$\cot C = \frac{AC}{AB} = \frac{21}{20}$$

$$\therefore \sin B - \cot C = \frac{21}{29} - \frac{21}{20}$$

$$= \frac{420 - 609}{580} = \frac{-189}{580}$$

52. (2)

$$x^2 + 1 - 2x = 0$$

$$x^2 = 2x - 1$$

$$\therefore x^2(x^2 - 2) = (2x - 1)(2x - 1 + 2)$$

$$= (2x - 1)(2x + 1) = (2x)^2 - 1$$

$$= 4x^2 - 1$$

53. (1)

$$8 \div 2 \text{ of } 3[56 \div 4 \text{ of } \{4 \times 3 - (9 - 11) \div (2 \div 4 \text{ of } 4)\}]$$

$$= 8 \div 6 [56 \div 4 \text{ of } \{12 - (9 - 11) \div (2 \div 16)\}]$$

$$= 8 \div 6 [56 \div 4 \text{ of } \{12 + 2 \div \frac{1}{8}\}]$$

$$= 8 \div 6 [56 \div 4 \text{ of } \{12 + 16\}]$$

$$= 8 \div 6 [56 \div 4 \text{ of } 28]$$

$$= 8 \div 6 \left(\frac{1}{2}\right)$$

$$= \frac{8}{6} \times \frac{1}{2} = \frac{2}{3}$$

54. (2)

MP of an article = ₹560

$$\text{CP of man} = 560 \times \frac{85}{100} \times \frac{80}{100} = ₹380.80$$

$$\therefore \text{SP of man} = 380.80 \times \frac{125}{100} = ₹476$$

55. (4) $CI - SI \text{ for 2 years} = P \left(\frac{R}{100} \right)^2$

$$478 = P \left(\frac{10}{100} \right)^2$$

$$478 = \frac{P}{100}$$

$\therefore P = 478 \times 100 = ₹47800$

56. (3) A can complete the work in 30 days.

A can do the work in 1 day = $\frac{1}{30}$

Let B can complete the work alone in x days.

B's 1 day work = $\frac{1}{x}$

ATQ,

$$\frac{10}{30} + \frac{(10-4)}{x} = 1$$

$$\frac{1}{3} + \frac{6}{x} = 1$$

$$\frac{6}{x} = 1 - \frac{1}{3}$$

$$\frac{6}{x} = \frac{2}{3}$$

$x = 9 \text{ days}$

\therefore B alone complete the one-third of the work = $\frac{9}{3} = 3 \text{ days}$

57. (1) Relative speed of train and man = $\frac{270}{9} = 30 \text{ m/s}$

$$= 30 \times \frac{18}{5} = 108 \text{ km/hr}$$

Speed of train = $108 + 9 = 117 \text{ km/hr}$

\therefore Required time to cross a platform = $\frac{270 + 380}{117 \times \frac{5}{18}} = \frac{650}{32.5} \text{ seconds} = 20 \text{ seconds}$

58. (2) Let income of Renu be ₹100.

$$\text{Saving} = 100 \times \frac{20}{100} = ₹20$$

$$\text{Expenditure} = 100 - 20 = ₹80$$

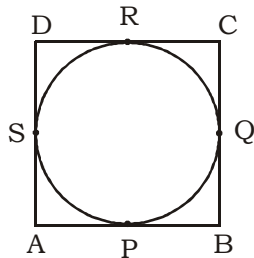
$$\text{New income} = 100 \times \frac{132}{100} = ₹132$$

$$\text{New expenditure} = 80 \times \frac{125}{100} = 100$$

$$\text{New saving} = 132 - 100 = ₹32$$

$$\therefore \text{Required\%} = \left(\frac{32 - 20}{20} \times 100 \right) \% = 60\%$$

59. (3)



$$AP = AS \quad \dots\dots(i)$$

$$BP = BQ \quad \dots\dots(ii)$$

$$DR = DS \quad \dots\dots(iii)$$

$$CR = CQ \quad \dots\dots(iv)$$

(Length of two tangents drawn from an external point of a circle are equal)

Adding equations (i), (ii), (iii) and (iv),

$$AP + BP + DR + CR = AS + BQ + DS + CQ$$

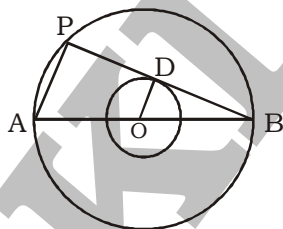
$$(AP + BP) + (DR + CR) = (BQ + CQ) + (DS + AS)$$

$$AB + CD = BC + AD$$

$$9 + 7 = 12 + AD$$

$$\therefore AD = 16 - 12 = 4 \text{ cm}$$

60. (2)



OD is radius of smaller circle and BD is the tangent to the smaller circle.

So,

$$OD \perp BD$$

$$\angle ODB = 90^\circ$$

In the bigger circle, P is a point in the semi circle of the bigger circle.

$$\text{Now, } \angle APB = 90^\circ$$

In $\triangle ABP$ and $\triangle OBD$,

$$\angle APB = \angle ODB = 90^\circ$$

$$\angle ABP = \angle OBD \quad (\text{Common})$$

$$\triangle ABP \sim \triangle OBD \quad (\text{By AA similarity})$$

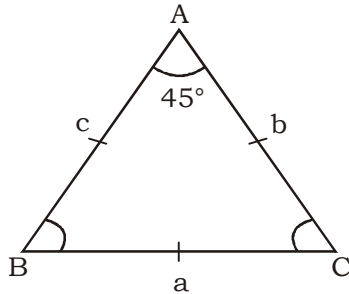
Now,

$$\frac{AP}{OD} = \frac{AB}{OB}$$

$$\frac{AP}{8} = \frac{30}{15}$$

$$\therefore AP = 8 \times 2 = 16 \text{ cm}$$

61. (3)



$$AB = AC = 10 \text{ cm}$$

$$\text{Area of } \triangle ABC = \frac{1}{2} bc \sin A$$

$$= \frac{1}{2} \times 10 \times 10 \times \sin 45^\circ$$

$$= 50 \times \frac{1}{\sqrt{2}} = 25\sqrt{2} \text{ cm}^2$$

62. (3) Interest for 1 year = $925 - 850 = ₹75$

If a sum becomes a_1 in t_1 years and a_2 in t_2 years, then rate of interest = $\frac{100(a_2 - a_1)}{(a_1 t_2 - a_2 t_1)}\%$

$$= \frac{100(925 - 850)}{850 \times 4 - 925 \times 3}\% = \frac{7500}{625}\% = 12\%$$

$$\therefore \text{Principal} = \frac{75 \times 100}{1 \times 12} = ₹625$$

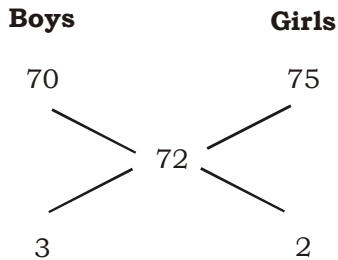
63. (4) Let the CP of goods be ₹100.

$$\text{MP of goods} = 100 \times \frac{125}{100} = ₹125$$

$$\text{SP of goods} = 100 \times \frac{120}{100} = ₹120$$

$$\therefore \text{Discount}\% = \left(\frac{125 - 120}{125} \times 100 \right)\% = 4\%$$

64. (3) By alligation method,



Ratio of boys and girls = 3 : 2

$$\therefore \text{Required \% of girls} = \left(\frac{2}{5} \times 100 \right) \% = 40\%$$

65. (4) $\frac{\sin \theta + \cos \theta}{\sin \theta - \cos \theta} = 3$

$$\sin \theta + \cos \theta = 3 \sin \theta - 3 \cos \theta$$

$$4 \cos \theta = 2 \sin \theta$$

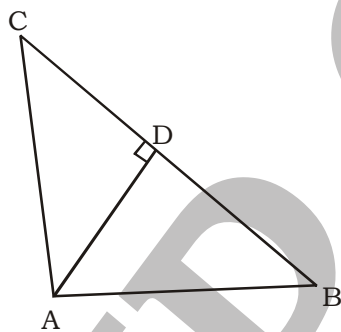
$$\frac{\sin \theta}{\cos \theta} = \frac{4}{2} = 2$$

$$\therefore \sin^4 \theta - \cos^4 \theta = (\sin^2 \theta + \cos^2 \theta)(\sin^2 \theta - \cos^2 \theta)$$

$$= \sin^2 \theta - \cos^2 \theta = \cos^2 \theta (\tan^2 \theta - 1)$$

$$= \frac{\tan^2 \theta - 1}{1 + \tan^2 \theta} = \frac{4 - 1}{1 + 4} = \frac{3}{5}$$

66. (3)



$$\angle BAC = 90^\circ, \angle ADC = 90^\circ$$

$$BC = 8 \text{ cm}, AC = 6 \text{ cm}$$

$$AB = \sqrt{8^2 - 6^2} = 2\sqrt{7} \text{ cm}$$

Now,

$$\text{Area of } \triangle ABC = \frac{1}{2} \times BC \times AD = \frac{1}{2} \times AB \times AC$$

$$8 \times AD = 2\sqrt{7} \times 6$$

$$AD = \frac{3\sqrt{7}}{2} \text{ cm}$$

Now,

$$CD = \sqrt{6^2 - \left(\frac{3\sqrt{7}}{2}\right)^2} = \sqrt{36 - \frac{63}{4}}$$

$$= \sqrt{\frac{144 - 63}{4}} = \sqrt{\frac{81}{4}} = \frac{9}{2} \text{ cm}$$

$$\therefore \frac{\text{Ar.}(\triangle ABC)}{\text{Ar.}(\triangle ACD)} = \frac{\frac{1}{2} \times AB \times AC}{\frac{1}{2} \times CD \times AD}$$

$$= \frac{\frac{2\sqrt{7} \times 6}{\frac{9}{2} \times \frac{3\sqrt{7}}{2}}}{\frac{2\sqrt{7} \times 6 \times 4}{9 \times 3 \times \sqrt{7}}} = 16 : 9$$

67. (1) $2x + \frac{2}{x} = 3$

$$x + \frac{1}{x} = \frac{3}{2}$$

On cubing both sides,

$$x^3 + \frac{1}{x^3} + 3 \times x \times \frac{1}{x} \left(x + \frac{1}{x}\right) = \frac{27}{8}$$

$$x^3 + \frac{1}{x^3} + 3 \times \frac{3}{2} = \frac{27}{8}$$

$$x^3 + \frac{1}{x^3} = \frac{27}{8} - \frac{9}{2}$$

$$x^3 + \frac{1}{x^3} = \frac{-9}{8}$$

$$\therefore x^3 + \frac{1}{x^3} + 2 = 2 - \frac{9}{8}$$

$$x^3 + \frac{1}{x^3} + 2 = \frac{7}{8}$$

68. (3) $14 + 6\sqrt{5} = 14 + 2 \times 3 \times \sqrt{5}$

$$= 9 + 5 + 2 \times 3 \times \sqrt{5}$$

$$= (3)^2 + (\sqrt{5})^2 + 2 \times 3 \times \sqrt{5}$$

$$= (3 + \sqrt{5})^2$$

$$\therefore \sqrt{14 + 6\sqrt{5}} = \sqrt{(3 + \sqrt{5})^2} = 3 + \sqrt{5}$$

69. (1) Let the LCM be L and HCF be H.

Then,

$$L = 4H$$

$$\text{Now, } H + 4H = 125$$

$$5H = 125$$

$$H = 25$$

$$L = 25 \times 4 = 100$$

$$\therefore \text{Second Number} = \frac{100 \times 25}{100} = 25$$

$$70. (3) \left(1 - \frac{1}{3}\right) \left(1 - \frac{1}{4}\right) \left(1 - \frac{1}{5}\right) \dots \dots \left(1 - \frac{1}{n}\right)$$

$$= \frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} \times \dots \dots \times \frac{n-1}{n} = \frac{2}{n}$$

71. (2) Ratio of profit between Amit, Kumar and Sohan

$$= (15000 \times 12) : (12000 \times 4 + 8000 \times 8) : (16000 \times 4 + 10000 \times 8)$$

$$= 180000 : 112000 : 144000 = 45 : 28 : 36$$

$$\therefore \text{Kumar's share in the profit} = \frac{54500}{109} \times 2 = ₹ 14,000$$

$$72. (4) \text{Average speed} = \frac{36 + 36}{\frac{36}{15} + \frac{36}{10}} = \frac{72}{2.4 + 3.6} = \frac{72}{6} = 12 \text{ km/hr}$$

$$73. (4) \text{Required percentage} = \left(\frac{50}{1025} \times 100\right)\% = 4.87\%$$

74. (3) Total marks obtained by Q in all the subjects together = 75 + 90 + 82 + 54 + 38 + 60 = 399

$$\therefore \text{Required \%} = \left(\frac{399}{600} \times 100\right)\% = 66.5\%$$

$$75. (2) \text{Required decrease \%} = \left(\frac{70 - 64}{70} \times 100\right)\% = 8\frac{4}{7}\%$$

MEANINGS IN ALPHABETICAL ORDER

Audacious	showing a willingness to take surprisingly bold risks	साहसी
Chum	a close friend	घनिष्ठ मित्र
Comic	causing or meant to cause laughter	हास्यपूर्ण
Conducive	making a certain situation or outcome likely or possible	प्रेरक, सहायक
Deify	worship, regard, or treat (someone or something) as a god	देवता तुल्य मानना
Dissipation	the squandering of money, energy, or resources	लपेटना
Eccentric	(of a person or their behavior) unconventional and slightly strange	सनकी
Endocrinology	the branch of physiology and medicine concerned with endocrine glands and hormones	एंडोक्राइन ग्रंथियों और हार्मोन से संबंधित शरीर विज्ञान और चिकित्सा की शाखा
Flatter	praise dishonestly	खुशामद करना
Frantic	wild or distraught with fear, anxiety, or other emotion	उन्मत्त, उग्र
Geriatrics	the branch of medicine or social science dealing with the health and care of old people	वृद्धावस्था और उनके रोगों से संबद्ध चिकित्सा शास्त्र की शाखा
Hurriedly	in a quick or hasty manner	शीघ्रता से
Incompatible	(of two things) so opposed in character as to be incapable of existing together	बेमेल
Incomprehensible	not able to be understood	जो समझा न जा सके
Inconsequent	not connected or following logically; irrelevant	असंगत
Infatuated	possessed with an intense but short-lived passion or admiration for someone	मुग्ध
Laurels	praise	प्रशंसा
Morbid	of the nature of or indicative of disease	बीमार
Obstetrics	the branch of medicine and surgery concerned with childbirth and the care of women giving birth	प्रसूति-विज्ञान
Oncology	the study and treatment of tumors	ट्यूमर का अध्ययन और उपचार का विज्ञान
Peer	make or become equal with or of the same rank	समान पद का

SSC MOCK TEST - 439 (ANSWER KEY)

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

76. (3) Replace 'since' by 'for'. 'For' comes for a indefinite period of time, e.g., 'twenty years'.
77. (1) Sentence starting with 'scarcely' takes an inversion form. Put 'had' before 'my father'.
- 86 (3) In a comparison, we take comparative degree of adjective.
87. (4) No Improvement
90. (4) The correct spelling of 'Conductive' is 'Conducive'.
91. (4) The correct spelling of 'Incomprehensible' is 'Incomprehensible'.