SSC MOCK TEST - 314 (SOLUTION)

1. (A) As,
   $23 \Rightarrow 23 \times 3$ and $23 \times 2 \Rightarrow 6946$
   Similarly,
   $27 \Rightarrow 27 \times 3$ and $27 \times 2 \Rightarrow 8154$
2. (A) Family is related to upbringing, while school is related to Education.
3. (D) Except China, others are continent.
4. (C) (A) C I F (+3, +3)
   (B) D J G (+3, +3)
   (C) B P L (+4, +10)
   (D) E K H (+3, +3)
5. (C) As,
   C O M P → P M O C
   U T E R → R E T U
   Similarly,
   H O N E → E N O H
   S T L Y → Y L T S
6. (D) $1 \times 4 + 1 = 5$
   $5 \times 4 + 1 = 21$
   $21 \times 4 + 1 = 85$
   $85 \times 4 + 1 = 341$
   $1365 \times 4 + 1 =$ **5461**
7. (C) D I M P R S (+5, +4, +3, +2, +1)
8. (B) Total ages of 20 staff = $20 \times 25 = 500$ years
   Total ages of staff and a manager = $26 \times 21 = 546$ years
   $\therefore$ Age of manager = $546 - 500 = 46$ years
9. (B) As,
   $18 + (1 + 8)^2 = 99$
   $99 + (9 + 9)^2 = 423$
   Similarly,
   $45 + (4 + 5)^2 = 126$
   $126 + (1 + 2 + 6)^2 = 207$
10. (B) **w**wws**s**/wwws**s**s/www**s**sss

11. (D)

12. (C) **In first column,**

$51 + 18 = 69 \Rightarrow 96 \times 2 = 192$

In second column,

$49 + 22 = 71 \Rightarrow 17 \times 2 = 34$

In third column,

$33 + 15 = 48 \Rightarrow 84 \times 2 = 168$

13. (C) $125 + 5 \times 3 \div 9 - 8 = 76$

After changing the signs,

$125 \div 5 \times 3 + 9 - 8 = 76$

$25 \times 3 + 9 - 8 = 76$

$84 - 8 = 76$

$76 = 76$

14. (D) At 6'o clock the hour hand is at 6 and minute hand is at 12 so they are 30 min apart.

Now to be together minute hand has to gain minutes over the hour hand

Time taken to gain 55 minute = 60 minute

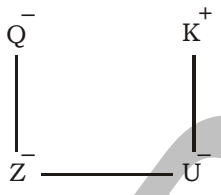
Time taken to gain 1 minute = $\frac{60}{55}$ min

Time taken to gain 30 min = $\frac{60}{55} \times 30 = \frac{360}{11}$

So, the hands will coincide at $32\frac{8}{11}$ min past 6

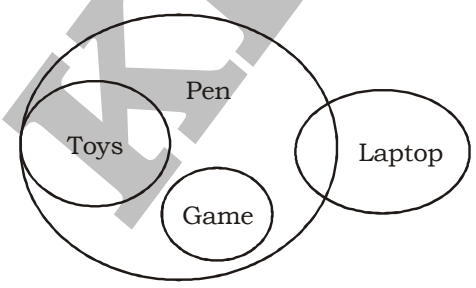
15. (C) 3. Square Inch → 5. Square feet → 2. Square yard → 1. Acre → 4. Hectare

16. (D)



Hence, U is the daughter of Q.

17.(A)

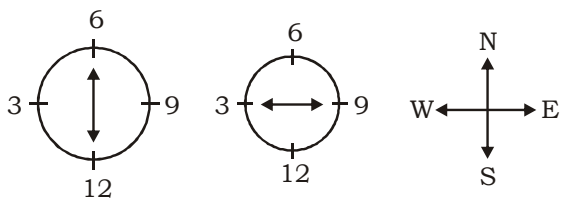


I. Doubt II. Doubt III. False

Hence, only either conclusion I or II follows.

18. (C) 19. (B)

20. (D)



21. (C) As,

PAIN ⇒ 16 + 1 + 9 + 14 = 40 ⇒ 40 × 4 (Number of letters in PAIN = 4) = 160

And,

ROADS ⇒ 18 + 15 + 1 + 4 + 19 = 57 ⇒ 57 × 5 (Number of letters in ROADS = 5) = 285

Similarly,

SPEAKER ⇒ 19 + 16 + 5 + 1 + 11 + 5 + 18 = 75 ⇒ 75 × 7 (Number of letters in SPEAKER = 7) = 525

22. (C) 23. (C) 24. (B) 25. (C)

28. (B) The term is commonly used to refer specifically to the speed of sound in air. At sea level, at a temperature of 21 degrees Celsius (70 degrees Fahrenheit) and under normal atmospheric conditions, the speed of sound is 343 m/s (1238 km/h or 770 mph).

30. (B) The Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".

32. (D) Propane is a colourless, odourless gas with a chemical formula of C3H8 i.e 3 carbon and 8 hydrogen atoms.

33. (B) The state emblem is an adaptation from the Sarnath Lion Capital of Ashoka.

34. (A) The shape of benzene: Benzene is a planar regular hexagon, with bond angles of 120°. This is easily explained. It is a regular hexagon because all the bonds are identical. The delocalization of the electrons means that there aren't alternating double and single bonds.

36. (A) PTM and TM Awards for Coast Guard Personnel Announced. The President of India has awarded President'sTatrakshak Medal (PTM) and Tatrakshak Medal (TM) to the following Indian Coast Guard personnel for their act of conspicuous gallantry/ meritorious / distinguished service on the occasion of Republic Day 2019.

39. (A) Celebrated on the birth anniversary of hockey wizard Dhyan Chand, the National Sports Day is also a timely reminder for the need for sporting activities in life. Question: When is National Sports Day? Answer: The National Sports Day in India is celebrated on August 29.

40. (C) The Great Indian Novel is a satirical novel by Shashi Tharoor, first published by Viking Press in 1989.

42. (C) The Widal test is one method that may be used to help make a presumptive diagnosis of enteric fever, also known as typhoid fever.

44. (D) A Deficit Financing is a situation where the expenditure of the government exceeds the revenue generated by the government. A budget deficit reflects the financial health of a country.

45. (B) Human alphaherpesvirus 3 (HHV-3), usually referred to as the varicella-zoster virus (VZV), is one of nine herpesviruses known to infect humans. It causes chickenpox (varicella), a disease most commonly affecting children, teens, and young adults, and shingles (herpes zoster) in adults; shingles is rare in children.

47. (D) The Constitution of India [Article 148] provides for an independent office to the CAG of India.

48. (C) Srinagar: We all have heard of floating gardens, Islands and Houseboats. But Kashmir's Famous Dal Lake has a floating Post office. It's the only floating post office in the whole world.

51. (A) Let the cost of a pen and a pencil be 5x and 2x respectively.

ATQ,

$5x \times 4 + 2x \times 3 = 520$

$26x = 520$

$x = \frac{520}{26} = ₹\ 20$

Cost of a pen = $20 \times 5 = ₹\ 100$

Cost of a pencil = $20 \times 2 = ₹\ 40$

∴ Cost of 2 pens and 4 pencil = $2 \times 100 + 4 \times 40 = 200 + 160 = ₹\ 360$

52. (D) Let the original price of one egg be ₹ x.

Reduced price = $x \times \frac{80}{100} = ₹\ \frac{4x}{5}$

ATQ,

$\frac{280}{4x} \times 5 - \frac{280}{x} = 14$

$\frac{350}{x} - \frac{280}{x} = 14$

$\frac{70}{x} = 14$

$x = \frac{70}{14} = ₹\ 5$

∴ Earlier price of one dozen egg = $12 \times 5 = ₹\ 60$

53. (C) P = ₹ 15000

R = 12%

T = 5 years

$SI = \frac{15000 \times 12 \times 5}{100} = ₹\ 9000$

Amount for both A and B = 15000 + 9000 = ₹ 24000

For A,

P = ₹ 24000

R = 15%

T = 2 years

$A = 24000 \times \left(1 + \frac{15}{100}\right)^2$

$= 24000 \times \frac{115}{100} \times \frac{115}{100} = ₹\ 31740$

CI = 31740 – 24000 = ₹ 7740

For B,

P = ₹ 24000

R = 20%

T = 2 years

$$A = 24000 \times \left(1 + \frac{20}{100}\right)^2$$

$$A = 24000 \times \frac{120}{100} \times \frac{120}{100} = ₹\ 34560$$

CI = 34560 – 24000 = ₹ 10560

∴ Required difference = 10560 – 7740 = ₹ 2820

54. (B) Let the quantity of juice be 100 litres in order to obtain a profit of 35% by selling at cost price, quantity of water should be 35% of juice.

∴ Required percentage of water in the mixture = $\left(\frac{35}{100+35} \times 100\right)\% = 25\frac{25}{27}\%$

55. (A) Let the age of A be x years.

The age of B = (x + 24) years

Six years ago,

Age of A = (x – 6) years

Age of B = (x + 24 – 6) = (x + 18) years

ATQ,

(x + 18) = (x – 6) × 3

x + 18 = 3x – 18

2x = 36

x = 18 years

Age of A = 18 years

∴ Age of B = 18 + 24 = 42 years

56. (C) $\frac{5}{2} - \frac{3}{2} \div 6 \times \frac{1}{2} + 8$

$$\frac{5}{2} - \frac{3}{2} \times \frac{1}{6} \times \frac{1}{2} + 8$$

$$\frac{5}{2} - \frac{1}{8} + 8$$

$$= \frac{20 - 1 + 64}{8}$$

$$= \frac{84 - 1}{8} = \frac{83}{8}$$

57. (D) $(a + b - c + d)^2 - (a - b + c - d)^2$

= [a + b – c + d + a – b + c – d] [a + b – c + d – (a – b + c – d)]

= 2a(a + b – c + d – a + b – c + d)

= 2a(2b – 2c + 2d)

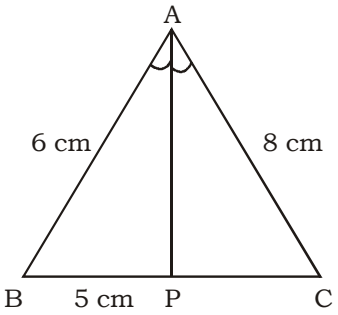
= 4a(b + d – c)

58. (C) $\dfrac{\tan 30° + \tan 60°}{\cos 30° - \sin 30°}$

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

$$= \frac{4 \times 2}{\sqrt{3}\left(\sqrt{3}-1\right)} = \frac{8}{3-\sqrt{3}}$$

59. (B)



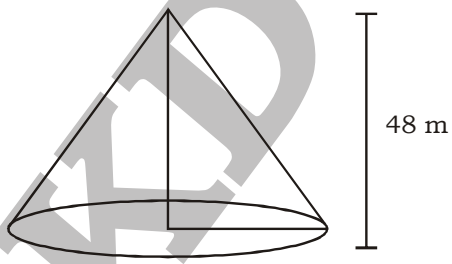
If AP bisects $\angle BAC$,

$\dfrac{AB}{AC} = \dfrac{BP}{CP}$ [An angle bisector of triangle divides the interior angle's opposite side into two segments that are proportional to the other two side of the triangle].

$$\frac{6}{8} = \frac{5}{CP}$$

$$\therefore \quad CP = \frac{5 \times 8}{6} = \frac{20}{3} \text{ cm}$$

60. (C)



Circumference of base of conical tent = $2\pi r$

$88 = 2\pi r$

$$2 \times \frac{22}{7} \times r = 88$$

$$r = \frac{88 \times 7}{44} = 14 \text{ cm}$$

Slant height = $\sqrt{14^2 + 48^2}$ = $\sqrt{196 + 2304}$

= $\sqrt{2500}$ = 50 m

∴ Required area of canvas = πrl

= $\frac{22}{7} \times 14 \times 50$ = 2200 m^2

61. (A) Let the cost price of an article be ₹ 100.

S.P of an article = $100 \times \frac{112}{100}$ = ₹ 112

M.P of an article = $\frac{112}{70} \times 100$ = ₹ 160

∴ Required% = $\left(\frac{160 - 100}{100} \times 100\right)\%$ = 60%

62. (C) $N = a^p \times b^q \times c^r$

The total number of factors = (p + 1) × (q + 1) × (r + 1)

When 732 is divided by a positive integer x, the remainder is 12. So,

732 – 12 = 720

So 720 will be completely divisible by x

720 = 24 × 32 × 51

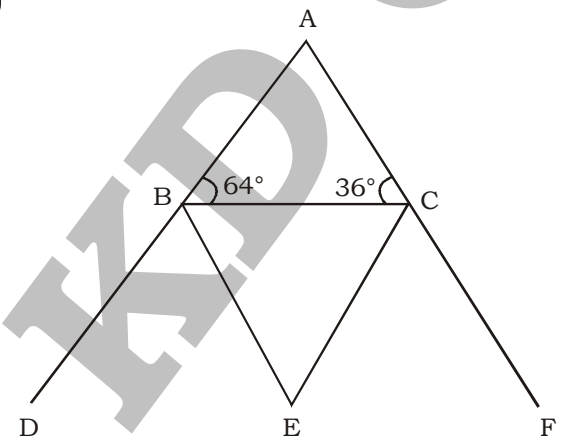
Total number of factors of 720 = (4 + 1) × (2 + 1) × (1 + 1) = 5 × 3 × 2 = 30

Number of factors 12 or less than 12 are (10) = 1, 2, 3, 4, 5, 6, 8, 9, 10, 12

So, x cannot have these values because x is greater than 12

∴ Possible values of x = 30 – 10 = 20

63. (A)



From the angle bisector property,

$\angle BFC = 90° - \frac{1}{2}\angle A$

In ΔABC,

$\angle A + \angle B + \angle C = 180°$ (Angle sum property of Δ)

$\angle A + 64° + 36° = 180°$

$\angle A = 180° - 100° = 80°$

$\therefore \quad \angle BFC = 90° - \frac{1}{2} \times 80°$

$= 90° - 40° = 50°$

64. (B) Let $(x - 13) = a$ and $(y - 7) = b$

Thus, we need to find $a^3 - b^3$ .....(i)

$x = a + 13$ and $y = b + 7$ .....(ii)

If is given that, $x - y = 6$

Substitutions values of from equation (ii),

$(a + 13) - (b + 7) = 6$

$a - b + 6 = 6$

$a - b = 0$

Cubing both sides,

$a^3 - b^3 - 3abc\,(a - b) = 0$

$a^3 - b^3 = 0$

$\therefore \quad (x - 13)^3 - (y - 7)^3 = 0$

65. (B) Let the income of Rahim be ₹ 100.

Saving = $100 \times \frac{25}{100}$ = ₹ 25

Expenditure = 100 – 25 = ₹ 75

New income = $100 \times \frac{120}{100}$ = ₹ 120

New expenditure = 120 – 25 = ₹ 95

$\therefore$ Required% = $\left(\frac{95 - 75}{75} \times 100\right)\% = 26\frac{2}{3}\%$

66. (D) Let the speed of boat in still water be x km/hr.

ATQ,

$\frac{14}{x + 3} = \frac{7}{x - 3}$

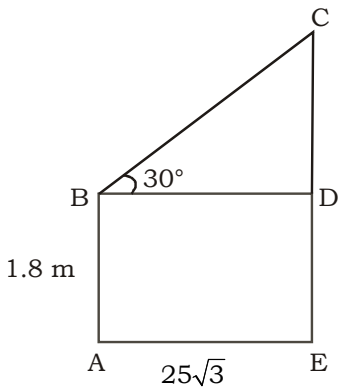
$14x - 42 = 7x + 21$

$7x = 63$

$x = \frac{63}{7}$ = 9 km/hr

$\therefore$ Required time = $\frac{108}{9}$ = 12 hours

67. (C)



Let AB is the observer and CE is the height of tower.

AE = BD = $25\sqrt{3}$ m

AB = DE = 1.8 m

In ΔBCD,

$$\tan 30° = \frac{CD}{BD}$$

$$\frac{1}{\sqrt{3}} = \frac{CD}{25\sqrt{3}}$$

CD = 25 m

Now, CE = CD + DE

= 25 + 1.8 = 26.8 m

$\therefore$ Height of tower = 26.8 m

68. (B) Ratio of A, B, C and D = $\frac{1}{3} : \frac{1}{5} : \frac{1}{6} : \frac{1}{9}$ = 30 : 18 : 15 : 10

$\therefore$ The value of x = $\frac{834}{18-15} \times 73$ = ₹ 20294

69. (C) a + b = 54 × 2 = 108

$$\frac{a+b+c}{3} = c + 4$$

a + b + c = 3c + 12

a + b = 2c + 12

108 = 2c + 12 ($\because$ a + b = 108)

2c = 96

$$c = \frac{92}{2} = 48$$

Now, d = 48 – 10 = 38

$\therefore$ Average of c and d = $\frac{48+38}{2} = \frac{86}{2} = 43$

70. (B) Let the income of Ramesh and Mahendra be ₹ 5x and ₹ 3x respectively.

ATQ,

$$\frac{5x-4000}{3x-1000}=\frac{6}{5}$$

$25x - 2000 = 18x - 8000$

$7x = 14000$

$x = ₹\ 2000$

Income of Ramesh = $5x = 5 \times 2000 = ₹\ 10000$

Income of Mahendra = $3x = 3 \times 2000 = ₹\ 6000$

Income of Sumit = $10000 + 5000 = ₹\ 15000$

Income of Ram = $6000 \times \frac{120}{100} = ₹\ 7200$

∴ Required ratio = 15000 : 7200 = 25 : 12

71. (D) Required number of students = 4 + 7 + 5 = 16

72. (C) Number of failure = 2 + 6 + 10 = 18

73. (B) Number of successful students = 45 – 18 = 27

∴ Required percentage = $\left(\frac{27}{45}\times 100\right)\% = 60\%$

74. (A) It is obvious from the histogram.

75. (A) Bar of class interval 30 – 40.

MEANINGS IN ALPHABETICAL ORDER

Dejected	sad and depressed; dispirited	उदास
Ductile	(of a metal) able to be drawn out into a thin wire	नमनीय
Elegant	pleasingly graceful and stylish in appearance or manner	सुरुचिपूर्ण
Flashy	ostentatiously attractive or impressive	चमकीला
Flattering	(of a person or their remarks) full of praise and compliments	चापलूसी
Fragile	(of an object) easily broken or damaged	भंगुर
Frugal	sparing or economical with regard to money or food	मितव्ययी
Glittering	shining with a shimmering or sparkling light	शानदार
Malady	a disease or ailment	रोग
Mansion	a large, impressive house	हवेली
Obligatory	required by a legal, moral, or other rule; compulsory	अनिवार्य
Ostentation	pretentious and vulgar display, especially of wealth and luxury, intended to impress or attract notice	डींग
Parody	an imitation of the style of a particular writer, artist, or genre with deliberate exaggeration for comic effect	हास्यानुकृति
Persuasion	the action or fact of persuading someone or of being persuaded to do or believe something	प्रोत्साहन
Quiescent	in a state or period of inactivity or dormancy	मौन
Remedy	a medicine or treatment for a disease or injury	निदान
Render	provide or give (a service, help, etc.)	प्रस्तुत करना
Scintillating	sparkling or shining brightly	जुटाकर
Stinging	having a sting; capable of wounding or piercing with a sting	चुभता
Volatile	(of a substance) easily evaporated at normal temperatures	परिवर्तनशील

SSC MOCK TEST - 314 (ANSWER KEY)

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

76. (B) Replace ‘master’ with ‘master’s’ .(to do a master’s degree)

77. (B) when two nouns “possess” the same entity, only the second takes an apostrophe (’):

90. (B) The correct spelling of 'Ostentasion' is 'Ostentation'.

91. (C) The correct spelling of 'Practicle' is 'Practice'.