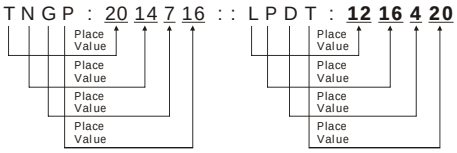
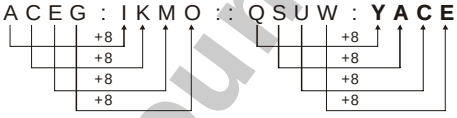
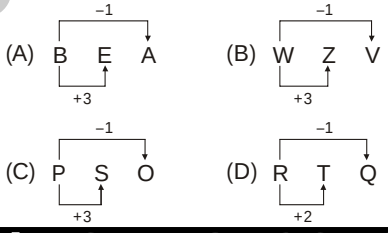
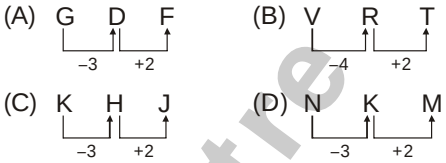
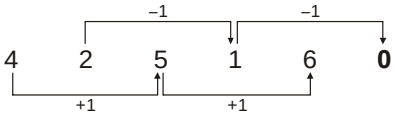
SSC MOCK TEST -168 (SOLUTION)

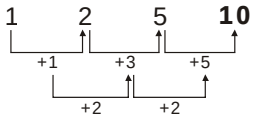
1. (D) 'Nurse' receives instructions from 'Doctor' and follows. Similarly, 'Follower' receives instructions from 'Leader' and follows.
2. (A) 'Food' is consumed in the 'Stomach'. Similarly, 'Fuel' is consumed in 'Engine'.
3. (D) 'Umpire' gives decision in the 'Match'. Similarly, 'Judge' gives decision in the 'Lawsuit'.
4. (D) 'Action' is followed by 'Reaction'. Similarly, 'Death' is followed by 'Rebirth'.
5. (D) 24 : 126 :: 48 : **344**
   5^2-1 5^3+1 7^2-1 7^3+1
6. (D) T N G P : 20 14 7 16 :: L P D T : **12 16 4 20**
   

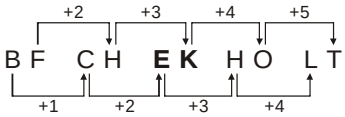
7. (C) D A R E : A D E R :: R E E K : **E R K E**
   
8. (D) 41537 : 4 :: 421 : **49**
   4+1+5+3+7=2+0⇒$(2)^2$ 4+2+1=7⇒7^2
9. (C) The study of 'Brain' is called 'Neurology'. Similarly, the study of 'Body' is called 'Physiology'.
10. (D) A C E G : I K M O :: Q S U W : **Y A C E**
    

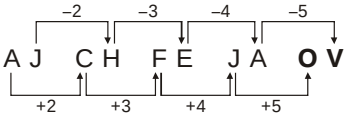
11. (D) Except option (D), all are related to motion.
12. (C) Except option (C), all are the parts of body which are equal in number.
13. (A) Except option (A), all need electricity to function.
14. (D) Commentary is the description of all other shows.
15. (D)
    

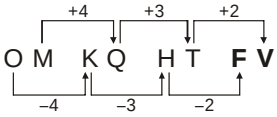
16. (B)
    

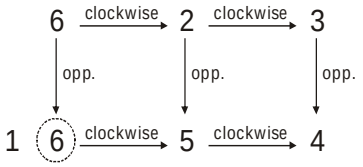
17. (C) Except option (C), all others are perfect squares of natural number.
18. (D) Except option (D) all are divisible by 12.
19. (A)
20. (D) 78 46 30 22 18 16 **15**
    −32 −16 −8 −4 −2 −1
21. (B) 462 420 380 **342** 306
    −42 −40 −38 −36
22. (C) 12 32 72 152 **312**
    +20 +40 +80 +160
    ×2 ×2 ×2
23. (A)
    

24. (A)
    

25. (A)
    

26. (A)
    

27. (A)
    

28. (C) According to dice I and III
    

29. (A) Rule $\Rightarrow$ Minute $= \frac{2}{11}(H_1 \times 30 \pm A°)$

Here $H_1 = 8$ and $A° = 0$

(When both the hands meet each other then 0° angle is made)

$= \frac{2}{11}(8 \times 30 \pm 0)$

$= \frac{2}{11}(240 \pm 0)$

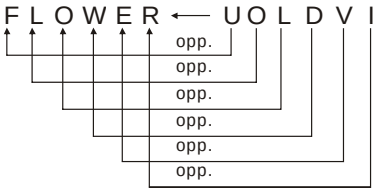
$= \frac{480}{11} = 43\frac{7}{11}$ Minute

So, at 8 O'clock $43\frac{7}{11}$ minutes both the hands will meet each other.

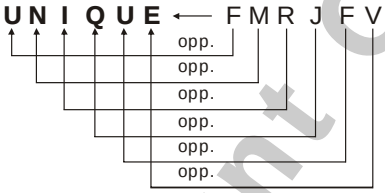
30. (D)

31. (C)

32. (B)



Similarly,



33. (A)

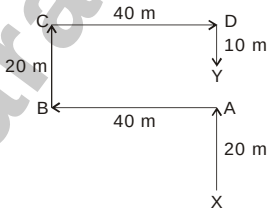
2 5 6 → You are good .....(I)

6 3 7 → We are bad .....(II)

3 5 8 → Good and bad .....(III)

According to equation (iii), and = 8.

34. (C)

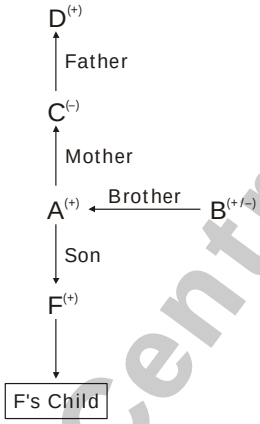


Required distance = XY = AX + AY

= 20 + 10

= 30 m, North

35. (D)



According to the question the gender of B is not known.

36. (C) 35 + 48 $\Rightarrow$ (3 + 5 + 4 + 8) × 2 = 40

23 + 34 $\Rightarrow$ (2 + 3 + 3 + 4) × 2 = 24

(15 + 25) $\Rightarrow$ (1 + 5 + 2 + 5) × 2 = 26

Similarly,

14 + 21 $\Rightarrow$ (1 + 4 + 2 + 1) × 2 = 16

37. (A) 10 ÷ 5 + 3 × 2 – 3

= 2 + 3 × 2 – 3

= 2 + 6 – 3

= 8 – 3

= 5

38. (A) Total = (Rank of B from top + Rank of B from bottom) – 1

= (15 + 21) – 1

= 35

Therefore A's rank from bottom =

35 = 7 + A – 1

= 35 = 6 + A

A = 35 – 6 = 29th

39. (D) Geeta, Raju, Mahesh, Dinesh, Suresh.

40. (A) RETURN

41. (C) QUITE

42. (A) 24 ÷ (4 × 2) = 3

105 ÷ (3 × 5) = 7

Similarly,

120 ÷ (6 × 4) = 5

43. (B) $3 \times (3-1) = 6 + 3 = 9$

$4 \times (4-1) = 12 + 3 = 15$

$6 \times (6-1) = 30 + 3 = 33$

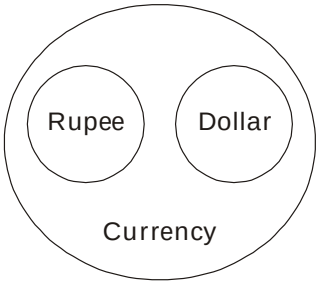
$2 \times (2-1) = 2 + 3 = 5$

$7 \times (7-1) = 42 + 3 = 45$

Similarly,

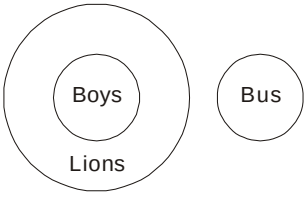
$5 \times (5-1) = 20 + 3 = 23$

44. (B)



45. (D)

46. (C)



Conclusions: I – ×

II – ×

47. (A)

48. (A)

49. (B)

50. (D)

51. (A) Let the numbers are x and $\frac{1}{x}$.

Then $x + \frac{1}{x} = \frac{10}{3}$

$$\frac{x^2+1}{x} = \frac{10}{3}$$

$\Rightarrow 3x^2 - 10x + 3 = 0$

$\Rightarrow 3x^2 - 9x - x + 3 = 0$

$\Rightarrow 3x(x-3) - 1(x-3) = 0$

$\Rightarrow (x-1)(x-3) = 0$

$\Rightarrow x = \frac{1}{3}, x = 3$

52. (C) $\because x^4 + xy^3 + x^3y + xz^3 + y^4 + yz^3$

$= (x^4 + xy^3 + xz^3) + (x^3y + y^4 + yz^3)$

$= x(x^3 + y^3 + z^3) + y(x^3 + y^3 + z^3)$

$= (x + y)(x^3 + y^3 + z^3)$

$\therefore$ Which is divisible by both $(x + y)$ and $(x^3 + y^3 + z^3)$

53. (C) Let the two numbers be $2x$, $3x$

then $\frac{2x+9}{3x+8} = \frac{3}{4}$

$\Rightarrow x = 9$

product of the numbers = 18×27

$= 486$

54. (C) Statement I

$$\frac{\cot 30° + 1}{\cot 30° - 1} = 2(\cos 30° + 1)$$

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

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

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

$$\Rightarrow \frac{2(2+\sqrt{3})}{2} = \sqrt{3} + 2$$

$\Rightarrow \sqrt{3} + 2 = \sqrt{3} + 2$

$\therefore$ It is true.

Statement II.

$2\sin 45° \cos 45° - \tan 45° \cot 45° = 0$

or, $2 \times \left(\frac{1}{\sqrt{2}} \times \frac{1}{\sqrt{2}}\right) - 1 \times 1 = 0$

or, $2 \times \frac{1}{2} - 1 \times 1 = 0$; $1 - 1 = 0$

$\therefore$ Both statements I and II are true.

55. (B) Required value

$$= \frac{2}{4} \div \frac{10}{7} \times 5 = \frac{1}{2} \times \frac{7}{10} \times 5 = \frac{7}{4} = 1\frac{3}{4}$$

56. (D) Suppose the amounts deposited in the name of A and B be `$x$ and `$(2523 - x)$

then, $x\left(1 + \frac{5}{100}\right)^3 = (2523 - x)\left(1 + \frac{5}{100}\right)^5$

or $x \times \left(\frac{21}{20}\right)^3 = (2523 - x)\left(\frac{21}{20}\right)^5$

or $\frac{x}{2523 - x} = \left(\frac{21}{20}\right)^{5-3} = \left(\frac{21}{20}\right)^2 = \frac{441}{400}$

or $400x = 441 \times 2523 - 441x$

or $841x = 441 \times 2523$

$\therefore\ x = \dfrac{441 \times 2523}{841}$ = ` 1323

57. (A) Suppose the concentration of acids in two containers A and B are x% and y% respectively.

quantity of Acid in A = $6 \times \dfrac{x}{100}$

quantity of Acid in B = $3 \times \dfrac{y}{100}$

Suppose k litre acid is emptied from each container,
then

Total acid in A = $\dfrac{6x}{100} - \dfrac{C \times x}{100} + \dfrac{C \times y}{100}$

Total acid in B = $\dfrac{3y}{100} - \dfrac{C \times y}{100} + \dfrac{Cx}{100}$

By question

$$\frac{\frac{6x}{100} - \frac{kx}{100} + \frac{ky}{100}}{6} \times 100 = \frac{\frac{3y}{100} - \frac{ky}{100} + \frac{kx}{100}}{3} \times 100$$

$$\frac{6x}{100} - \frac{kx}{100} + \frac{ky}{100} = \frac{6y}{100} - \frac{2ky}{100} + \frac{2kx}{100}$$

$$\frac{6(x-y)}{100}(x-y) = \frac{3k}{100}(x-y)$$

$\Rightarrow$ k = 2 litres.

58. (A) Boys = $\dfrac{5}{9} \times 45 = 25$ and girls $45 - 25 = 20$

$\therefore$ Required average

$$= \frac{25 \times 76 + 20 \times 78}{45} = \frac{3460}{45}$$

= 76.89 (approx)

59. (D) Length of diangoal = $52 \times \dfrac{15}{60} = 13$ m

Length along sides = $68 \times \dfrac{15}{60} = 17$ m

Now, $l + b = 17$

and $\sqrt{l^2 + b^2} = 13$

$\Rightarrow$ $l^2 + b^2 = 169$
$\Rightarrow$ $(17 - b)^2 + b^2 = 169$
$\Rightarrow$ $289 - 34b + 2b^2 = 169$
$\Rightarrow$ $b^2 - 17b + 60 = 0$
$\Rightarrow$ $(b - 12)(b - 5) = 0$
$\Rightarrow$ $b = 5, 12$
$\therefore$ $l = 12, 5$
$\therefore$ Area of the ground = $12 \times 5 = 60 m^2$

60. (D) $r = \dfrac{140}{2} = 70$

Total area of the canvas = $2\pi rh + \pi rl$

$= \pi r(2h + l) = \dfrac{22}{7} \times 70(2 \times 5 + 60)$

= 220 × 70 = 15400 sq.m

61. (A) $x^2 + 2x - 8 = x^2 + 4x - 2x - 8$
$= x(x + 4) - 2(x + 4)$
$= (x - 2)(x + 4)$
$x^3 - 4x^2 + 4x = x^3 - 2x^2 - 2x^2 + 4x$
$= x^2(x - 2) - 2x(x - 2)$
$= (x^2 - 2x)(x - 2)$
$= x(x - 2)(x - 2)$
$x^2 + 4x = x(x + 4)$
Now, LCM of $(x^2 + 2x - 8)$, $(x^3 - 4x^2 + 4x)$ and $(x^2 + 4x)$
$= x(x - 2)(x + 4)(x - 2)$
$= x(x + 4)(x - 2)^2$

62. (B) Let bus starts with x number of passengers.
After 1st stoppage, number of passengers

$= x - \dfrac{x}{5} + 40$

$= \dfrac{5x - x + 200}{5} = \dfrac{4x + 200}{5}$

After 2nd stoppage, number of passengers

$= \dfrac{4x + 200}{5} - \dfrac{4x + 200}{5 \times 2} + 30$

$= \dfrac{4x + 200}{5} - \dfrac{4x + 200}{10} + 30$

$\Rightarrow$ $\dfrac{4x + 200}{5}\left(1 - \dfrac{1}{2}\right) + 30 = 70$ (given)

$\Rightarrow$ $\dfrac{4x + 200}{10} + 30 = 70$

$\Rightarrow$ $4x + 200 = 400$
$\Rightarrow$ $4x = 200$
$\therefore$ $x = 50$

63. (D) Curved surface area of cylinder
= $2\pi rh = x$

Volume of cylinder = $\pi r^2 h = y$

$\Rightarrow$ $\dfrac{2\pi rh}{\pi r^2 h} = \dfrac{x}{y}$ $\Rightarrow$ $r = \dfrac{2y}{x}$

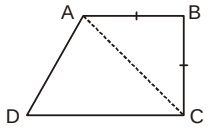
Also, $h = \dfrac{x}{2\pi r}$

$\therefore$ Required ratio = $\dfrac{h}{r} = \dfrac{\frac{x}{2\pi r}}{\frac{2y}{x}}$

$$\frac{x}{2\pi\frac{2y}{x}} \times \frac{x}{2y} = \frac{x^3}{8\pi y^2}$$

So, the ratio is not independent of x or y

64. (C) Join AC.



Now, in ΔABC,

$\because$ AB = BC

$\therefore \angle BAC = \angle BCA$ ..... (i)

(angles opposite to equal side)

In ΔADC,

$\because$ CD > AD

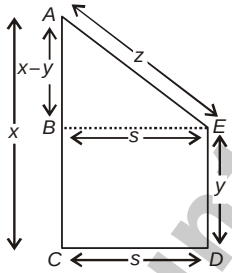
$\therefore \angle DAC > \angle DCA$ .....(ii)

(since, in a triangle, angle opposite to greater side is bigger than the angle opposite to smaller side)

On adding Eqs. (i) and (ii), we get

$\angle BAD > \angle BCD$

65. (D) Now, by applying Pythagoras theorem in ΔABE,



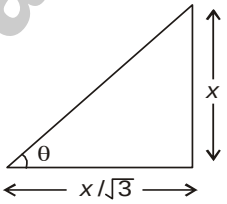
$AE^2 = AB^2 + BE^2$

$\Rightarrow z^2 = (x-y)^2 + s^2$

$\Rightarrow z^2 = x^2 + y^2 - 2xy + s^2$

$\Rightarrow s^2 = z^2 - x^2 - y^2 + 2xy$

66. (C) Here, θ is the angle of elevation



$$\tan\theta = \frac{\text{Perpendicular}}{\text{Base}} = \frac{x}{\frac{x}{\sqrt{3}}}$$

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

Here, $\tan\theta = \sqrt{3}$

So, $\theta = 60°$ $(\because \tan 60° = \sqrt{3})$

67. (B) $\sin^6\theta + \cos^6\theta + 3\sin^2\theta\cos^2\theta$

$= (\sin^2\theta)^3 + (\cos^2\theta)^3 + 3\sin^2\theta\cos^2\theta$

$(\sin^2\theta + \cos^2\theta)$

$[\because (a+b)^2 = a^3 + b^3 + 3ab(a+b)]$

Here, $a = \sin^2\theta$ and $b = \cos^2\theta$

$= (\sin^2\theta + \cos^2\theta)$ $(\because \sin^2\theta + \cos^2 = 1)$

$= (1)^3 = 1$

68. (B) Let the number be x

Actual calculation

$$= \left(\frac{4}{5} + \frac{2}{3}\right)x = \frac{12+10}{15}x$$

calculation (by error) $\left(\frac{5}{4} + \frac{3}{2}\right)x = \frac{11}{4}x$

$$\% \text{ error} = \frac{\frac{11}{4}x - \frac{22}{15}x}{\frac{22}{15}x} \times 100$$

$$= \frac{\frac{165-88}{60}}{\frac{22}{15}} \times 100 = \frac{77}{60} \times \frac{15}{22} \times 100 = 87.5\%$$

69. (B) CP of 150 calculators = ` 250 × 150

= ` 37500

Transportation and packaging charge

= ` 2500

Net CP = ` 37500 + 2500 = ` 40000

SP of 1 calculator = 95% of 320

= ` 304

SP of 150 calculators = 304 × 150

= ` 45600

$$\% \text{ gain} = \frac{45600 - 40000}{40000} \times 100$$

$$= \frac{5600 \times 100}{40000} = 14\%$$

70. (C) Time left after 24 days

= 40 – 24 = 16 days

work to be completed 4 days before the scheduled time = 16 – 4 = 12 days

$$\because \frac{25 \times 24}{\frac{1}{3}} = \frac{M \times 12}{\frac{2}{3}}$$

$M = \frac{25 \times 24 \times 2}{12}$ = 100 men

Extra men required = 100 – 25 = 75 men

71. (B) A + B = 7 (A – B), Case I
(A + B + 10) = 9 (A – B), Case II
on solving case I and II, we have,
A = 20 years, B = 15 years
present age of the one older of the two
= 20 years

72. (C) Work done by Shalini in 5 days = $\frac{5}{20}$

suppose Preeti completes the remaining work in x days

then, $\frac{5}{20} + \frac{x+5}{30} = 1$

$\Rightarrow 2x = 60 - 25 \quad \Rightarrow x = \frac{35}{2}$ days

$\therefore$ total no. of days = $\left(\frac{35}{2} + 5\right)$ days

$= 22\frac{1}{2}$ days

73. (B) Suppose A takes x minutes more after 5 minutes of working together with B to fill the cistern
then,

$\frac{5}{25} + \frac{5+x}{20} = 1$

$\Rightarrow 20 + 25 + 5x = 100$

$\Rightarrow x = 11$ minutes

74. (A) Time taken to meet = $\frac{400}{35+45}$ = 5 hours

Hence 6AM + 5 hours = 11AM and
35 × 5 = 175 km
away from A

75. (C) Relative speed = (72 – 36) km/hr
= 36 km/hr

$= 36 \times \frac{5}{18}$ = 10 m/s

length of the faster train = 10 × 5 = 50m

76. (C) Speed downstream = (22 + 4.5) km/hr
= 26.5 km/hr
Time taken in going 53 kms along the stream

$= \frac{53}{26.5}$ = 2 hours

Speed upstream = (22 – 4.5)
= 17.5 km/hr
Time taken in going 70 kms against stream

$= \frac{70}{17.5}$ = 4 hours

Required ratio = $\frac{2}{4} \Rightarrow 1 : 2$

77. (D) Area of remaining park
= Area of the park - (Area of two roads) + Area of central crossing
= 72 × 48 – (72 × 2 + 48 × 2) + 2 × 2
= 3456 – (144 + 96) + 4
= 3460 – 240
= 3220m²

78. (C) Volume of the conical vessel
= volume of cylindrical vessel

$\frac{1}{3}\pi r^2 h = \pi R^2 H$

$\frac{1}{3} \times 12 \times 12 \times 50 = 10 \times 10 \times H$

$\Rightarrow$ H = 24 cm

79. (C) $\because \frac{1}{a}, \frac{1}{b}, \frac{1}{c}$ are in AP

$\frac{1}{b} - \frac{1}{a} = \frac{1}{c} - \frac{1}{b}$

$\frac{a-b}{ab} = \frac{b-c}{bc}$

$\Rightarrow \frac{a-b}{a} = \frac{b-c}{c}$

$\frac{a-b}{b-c} = \frac{a}{c}$

80. (C) $\frac{(1.5)^3 + (4.7)^3 + (3.8)^3 - 3 \times 1.5 \times 4.7 \times 3.8}{(1.5)^2 + (3.8)^2 + (4.7)^2 - 1.5 \times 4.7 - 4.7 \times 3.8 - 3.8 \times 1.5}$

$= \frac{(1.5 + 4.7 + 3.8)[(1.5)^2 + (3.8)^2 + (4.7)^2 - 1.5 \times 4.7 - 4.7 \times 3.8 - 3.8 \times 1.5]}{(1.5)^2 + (3.8)^2 + (4.7)^2 - 1.5 \times 4.7 - 4.7 \times 3.8 - 3.8 \times 1.5}$

= 1.5 + 4.7 + 3.8 = 10

81. (B) $\because \frac{M_1 D_1}{W_1} = \frac{M_2 D_2}{W_2}$

$\Rightarrow \frac{36 \times 16}{\frac{2}{3}} = \frac{48 \times D_2}{\frac{1}{3}}$

$\Rightarrow D_2 = \frac{36 \times 16}{48 \times 2}$ = 6 days

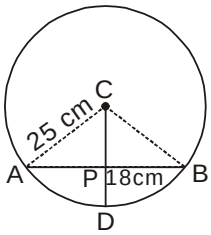
82. (A) Relative speed = (11 – 10) km/hr

$$= \frac{1\times1000}{60} \text{ m/min}$$

distance covered = $\frac{1000}{60}\times 6 = 100$ m

Remaining distance = 200 – 100 = 100 m

83. (D)



ΔACP,

CP = CD – PD = 25 – 18 = 7

Now, $AC^2 = CD^2 + AP^2$

$\therefore$ AP = $\sqrt{AC^2 - CD^2}$

$= \sqrt{(25)^2 - (7)^2}$

$= \sqrt{625 - 49}$

$= \sqrt{576} = 24$ cm

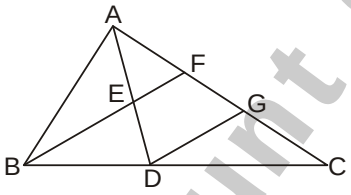
Similarly, PB = 24 cm

$\therefore$ AB = AP + PB

= 24 + 24 = 48 cm

84. (D) It is a square

85. (B) Draw line segment DG parallel to BF.



Then, in ΔADG,

EF || DG

and AE = ED

$\therefore$ AF = GC .....(i)

Similarly, in ΔBCF,

DG || BF

and BD = DC

$\therefore$ FG = GC .....(ii)

From Eqs. (i) and (ii),

CF = $\frac{2}{3}$ AC

86. (D) Since, *PQR* is an equilateral triangle

Then, PL is also the median of ΔPQR. Similarly, *RN* and *QM* are also the median and *O* is the centroid.

So, $\frac{PO}{OL} = \frac{2}{1}$

$OL = \frac{PO}{2} = \frac{8}{2} = 4$ cm

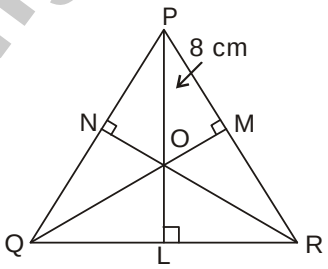
Now, altitude of $\Delta PQR = \frac{\sqrt{3}a}{2}$

(where, a = length of the side of equilateral triangle *PQR*)

$PO + OL = \frac{\sqrt{3}a}{2}$

$8 + 4 = \frac{\sqrt{3}a}{2}$

$a = \frac{12\times2}{\sqrt{3}} = \frac{24}{\sqrt{3}}$ cm



$\therefore$ Perimeter of $\Delta PQR = 3a$

$= \frac{3\times24}{\sqrt{3}} = 24\sqrt{3}$ cm

87. (B) $\tan\theta + \sec\theta = m$

$\Rightarrow \sec\theta = m - \tan\theta$

On squaring both sides, we get

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

$\Rightarrow \sec^2\theta = m^2 + \tan^2\theta - 2m\tan\theta$

$\Rightarrow \sec^2\theta - \tan^2\theta = m^2 - 2m\tan\theta$

$\Rightarrow 1 = m^2 - 2m\tan\theta$

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

$\Rightarrow \tan = \frac{m^2 - 1}{2m}$

On putting the value of $\tan\theta$ in initial equation, we get

$\frac{m^2 - 1}{2m} + \sec\theta = m$

$\Rightarrow \sec\theta = m - \frac{m^2 - 1}{2m}$

$\therefore \sec\theta = \frac{2m^2 - m^2 + 1}{2m} = \frac{m^2 + 1}{2m}$

88. (C) $\because 5\sin\theta + 12\cos\theta = 13$

On squaring both sides, we get

$25\sin^2\theta + 144\cos^2\theta + 120\sin\theta\cos\theta = 169$

$\Rightarrow 25(1-\cos^2\theta) + 144(1-\sin^2\theta) + 120\sin\theta\cos\theta = 169$

$\Rightarrow 25 - 25\cos^2\theta + 144 - 144\sin^2\theta + 120\sin\theta\cos\theta = 169$

$\Rightarrow 25\cos^2\theta + 144\sin^2\theta - 120\sin\theta\cos = 169 - 169$

$\Rightarrow (5\cos\theta - 12\sin\theta)^2 = 0$

$\Rightarrow 5\cos\theta - 12\sin\theta = 0$

89. (B) $9x^2 + \frac{9}{x^2}$

$= 9\left(x^2 + \frac{1}{x^2}\right) = 9\left[\left(x - \frac{1}{x}\right)^2 + 2\right]$

$= 9\left[\left(\frac{1}{3}\right)^2 + 2\right] = 9 \times \frac{19}{9} = 19$

90. (A) $\frac{1}{\{(1+\sqrt{3})+\sqrt{2}\}} + \frac{1}{\{(1+\sqrt{3})-\sqrt{2}\}}$

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

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

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

91. (C) The highest cost of each book
= HCF of ` 223.20 and ` 165.60
= ` 7.20

Least number of books purchased
$= \frac{223.20}{7.2} = 31$

Number of books sold = $\frac{165.60}{7.2} = 23$

Remaing books = 31 – 23 = 8

92. (C) Let the certain price = ` 100

CP = $\frac{3}{4} \times 100$ = ` 75

SP = 80% 140% of 100 = ` 112

% profit = $\frac{112-75}{75} \times 100$

$= \frac{148}{3} = 49\frac{1}{3}\%$

93. (D) Let R be the rate of interest

then, $\frac{500 \times R \times 3}{100} + \frac{2000(R+2) \times 3}{100} = 345$

$15R + 60R + 120 = 345$

$R = \frac{345-120}{75} = 3\%$

The rate at which money was lent to Q = 5%

93. (A) Let rate = r%

ATQ,

$\frac{500 \times 3 \times r}{100} + \frac{200 \times 3 \times (r+2)}{100} = 345$

$15r + 60r + 120 = 345$

$75r = 225$

$r = 3\%$

94. (D) $\because p = \frac{d \times 100^3}{r^2(300+r)} = \frac{31 \times 100 \times 100 \times 100}{100(310)}$

= ` 1000

95. (B) Ratio of the investment by Ashok and Binod
= 25000 × 12 : 30000 × 9
= 10 : 9

Share of Ashok = $\frac{10}{19} \times 19000$ = ` 10,000

96. (D) $\left(\frac{19-11}{100}\right) \times 120000 = 9600$

97. (C) $\frac{10200}{120000} \times 100 = 8.5\%$

98. (D) Estimated cost of furniture and miscellaneous expenditures.

$= \left(\frac{13+8}{100}\right) \times 120000 = 25200$

Actual cost of furniture

$= \frac{88}{100} \times \frac{13}{100} \times 120000$

= 13728

Actual cost of furniture and miscellaneous expenditure = 13728 + 10200 = 23928.

Total expenditure of the family
= 120000 – 25200 + 23928 = 118728

99. (B) $\left(\frac{15+14}{100}\right) \times 120000 = 34800$

100. (D) $\frac{88}{100} \times \frac{13}{100} \times 120000 = 13728$

101. (C) The four classes were mentioned in Purush Sukta in **10th mandal** of Rigveda.

102. (B) According to the Article 243 K (1), the chief of the State Election Commission is appointed by **the Governor**.

103. (A) Blue-green algae or **Cyanobacteria** are microscopic cells that grow naturally in Australian fresh and salt waters. They are a type of bacteria, but in some ways act like plants by using sunlight to manufacture carbohydrates from carbon dioxide and water, a process known as photosynthesis. In doing so, they release oxygen. They grow in dams, rivers, creeks, reservoirs, lakes and even hot springs.

104. (B) "Dakshineshwar" is related with RamKrishna Paramhans. He was the mentor of Swami Vivekananda. This place is located in Kolkata.

105. (A) **Lake Baikal** is a rift lake in Russia, located in Southern Siberia, between Irkutsk Oblast to the northwest and the Buryat Republic to the southeast. Lake Baikal is the largest freshwater lake by volume in the world, containing roughly 20% of the world's unfrozen surface fresh water. It is also known as the **Pearl of Siberia**.

106. (B) Graben is associated with **Rift Valleys**. **Tectonic basins and rift valleys,** landforms characterized by relatively steep, mountainous sides and flat floors. The steep sides are created by displacement on faults such that the valley floor moves down relative to the surrounding margins, or, conversely, the margins move up relative to the floor.

107. (B) Non- plan expenditure is largely the revenue expenditure of the government, although it also includes capital expenditure. It covers all expenditure not included in the Plan Expenditure. Non-Plan Expenditure constitutes the biggest proportion of the government's total expenditure. The biggest items of Non-Plan Expenditure are interest payments and debt servicing, defence expenditure and subsidies. For defence services, both revenue and capital expenditure are incurred.

108. (A) Electoral stain typically contains a pigment for instant recognition, a silver nitrate which stains the skin on exposure to ultraviolet light, leaving a mark that is impossible to wash off and is only removed as external skin cells are replaced.

109. (A) Pandemic is an occurrence in which a disease spreads very quickly and affects a large number of people over a wide area or throughout the world.

110. (C) Any session of the state legislation is prorogated by the **Governor**.

111. (B)

112. (D) Hathigumpha inscription was built by Kharvel in Odisha, near Bhuvneshwar.

113. (D) The right to equality before the law contained in article 14 of the Constitution of India is available to all persons whether natural or legal.

114. (B) The Manjra also spelled Manjira is a tributary of the **river Godavari**. It passes through the states of Maharashtra, Karnataka and Telangana. It originates in the Balaghat range of hills at an altitude of 823 metres (2,700 ft) and empties into the **Godavari River**.

115. (C) The **adjournment motion** is thus an extraordinary procedure which, if admitted, leads to setting aside the normal business of the House for discussing a definite matter of urgent public importance.

116. (A) Boreal forests, or Taiga, represent the largest terrestial biome. Occuring between 50 and 60 degrees north latitudes, boreal forests can be found in the broad belt of Eurasia and North America: two-thirds in Siberia with the rest in Scandinavia, Alaska, and Canada. Seasons are divided into short, moist, and moderately warm summers and long, cold, and dry winters. The length of the growing season in boreal forests is 130 days.

117. (C) "The Man who Divided India" was written by **Rafiq Zakaria**.

118. (A)

119. (C) **Peshawar** was known as Purushpur in ancient times. It was the capital of Kushana ruler Kanishka.

120. (D)

121. (D) An important item in balance of payments on capital account is foreign investment by foreign companies in India. There are two types of foreign investments. First is Portfolio Investment under which foreign institutional investors (FII) purchase shares (equity) and bonds of Indian companies and Government.

122. (A) Mayo came in India in 1869. He founded Mayo College in Ajmer. He was killed by an Afghan in 1872.

123. (C) An aggrieved citizen can directly approach the Supreme Court (*Article 32(1)*) in case his Fundamental Rights are violated. *Article 32(2)* of the Indian Constitution empowers the Hon'ble Supreme Court (of India) to issue directions or orders or writs, including writs in the nature of *habeas corpus, mandamus, prohibition, quo warranto* and *certiorari*, whichever may be appropriate, for the enforcement of any of the rights of citizen. Article 32 is called the *heart and soul* of Indian Constitution.

124. (A) Vishwanath Pratap Singh (25 June 1931 – 27 November, 2008) Indian politician and government official, was the eighth Prime Minister of India. In December, 1985 the Union Finance Minister Mr. V.P. Singh outlined fiscal measures in his paper on 'Long-Term Fiscal Policy" in concrete terms promising to impact a definite direction and coherence to the sequence of annual budgets.

125. (A) Liver is affected by Hepatitis.

126. (A) Erythroblastosis fetalis is hemolytic anemia in the fetus (or neonate, as erythroblastosis neonatorum) caused by transplacental transmission of maternal antibodies to fetal RBCs. The disorder usually results from incompatibility between maternal and fetal blood groups, often $Rh_0(D)$ antigens. Diagnosis begins with prenatal maternal antigenic and antibody screening and may require paternal screening, serial measurement of maternal antibody titers, and fetal testing. Treatment may involve intrauterine fetal transfusion or neonatal exchange transfusion. Prevention is $Rh_0(D)$ immune globulin injection for women at risk.

127. (C) Mass is a constant - a measure of density. Weight is the measurement of gravitational force on the object's mass. So an object of a given mass will weigh more on Earth than on the moon, but its mass cannot change.

128. (C) Gamma radiation consists of photons, which of course travel at the speed of light, like all electromagnetic radiation. BUT, photons have ~zero mass, so although they can have a tiny impact effect when striking material, their kinetic energy transfer is much less than for alpha and beta particle collisions when they interact with matter.

Despite having the greatest velocity ('speed of light'), with no electric charge and effectively ~zero mass, there isn't a lot to cause interaction with any material the gamma radiation is passing through, so, it penetrates into matter the furthest but **causes the least ionisation**.

129. (D) The richest source of vitamin D is **Cod liver oil**.

130. (B) Fauj-e-ayen was related with Ranjit Singh. This army was trained by French officers Elark and Venchura.

131. (A) Weathered rock fragments that accumulate at the base of a slope are called **Till**.

132. (C) Alluvial soil is a fine-grained fertile soil deposited by water flowing over flood plains on in river beds.They generally lack humus and Nitrogen. These soil cover 40% of the entire land area in India that accounts covers an area of 15 lakh sq.km. Infact the complete Northern Plains are made up of these soils.

133. (B) A cess is a tax that is levied by the government to raise funds for a specific purpose. Collections from the Education Cess and the Secondary and Higher Education Cess, for instance, are supposed to be used for funding primary and higher and secondary education respectively. Likewise, money collected from the newly introduced Krishi Kalyan Cess is to be used for funding agri development initiatives.

A cess is also different from the usual taxes such as personal income tax,

excise duty and customs duty in another respect. All the taxes collected by the government usually go into the Consolidated Fund of India (CFI) which can be spent on any legitimate activity. But the collections from a cess are required to be kept outside of the CFI to be spent only on the specific purpose for which it was levied.

134. (A) Effective Revenue Deficit is the difference between revenue deficit and grants for creation of capital assets. In other words, the Effective Revenue Deficit excludes those revenue expenditures which were done in the form of grants for creation of capital assets aka GoCA.

Such grants include the grants given under:

Pradhan Mantri Gram Sadak Yojana

Accelerated Irrigation Benefit Programme

Jawaharlal Nehru National Urban Renewal Mission

MGNREGA etc.

135. (A) A fiscal or monetary policy, designed to expand a country's output and curb the effects of deflation. Reflation policies can include reducing taxes, changing the money supply and lowering interest rates.

The term "reflation" is also used to describe the first phase of economic recovery after a period of contraction.

136. (B) Photosynthesis is an example of an endothermic chemical reaction. In this process, plants use the energy from the sun to convert carbon dioxide and water into glucose and oxygen. This reaction requires 15MJ of energy (sunlight) for every kilogram of glucose that is produced.

Plants store energy through the endothermic reactions of photosynthesis Living things can release energy through a series of Exothermic reactions called Respiration. The energy stored in plants through photosynthesis can also be released in other ways.

137. (A) The GNP deflator measures the average level of the prices of all goods and services produced in the economy during an accounting year. GNP deflator is measured as the ratio of nominal GNP to real GNP, multiplied by 100. GNP deflator shows how change in the GNP because of change in price level. In other words, GNP deflator refers to change in price index for GNP.

The value of GNP deflator is obtained as under :

$$\text{GNP Deflator} = \frac{\text{Nominal GNP}}{\text{Real GNP}} \times 100$$

138. (B) Steam at 100 degree Celsius is more effective in heating than water at the same temperature because steam has an additional heat known as latent heat of "vaporization".

139. (C) Quantitative easing is an unconventional monetary policy in which a central bank purchases government securities or other securities from the market in order to lower interest rates and increase the money supply. Quantitative easing increases the money supply by flooding financial institutions with capital in an effort to promote increased lending and liquidity. Quantitative easing is considered when short-term interest rates are at or approaching zero, and does not involve the printing of new banknotes.

140. (A) Octane number is a measure of the quality of a petrol expressed as the percentage of isooctane in a mixture of isooctane and n -

heptane that gives a fuel with the same antiknock qualities as the given petrol.

141. (C) A **kidney stone**, also known as a **renal calculus** or **nephrolith**, is a solid piece of material which is formed in the kidneys from minerals in urine.

142. (D)

143. (C) **Prototheria** is a taxonomic group, or taxon, to which the order Monotremata belongs. It is conventionally ranked as a subclass within the mammals.

144. (C) A dielectric material is a substance that is a poor conductor of electricity, but an efficient supporter of electrostatic fields. If the flow of current between opposite electric charge poles is kept to a minimum while the electrostatic lines of flux are not impeded or interrupted, an electrostatic field can store energy. This property is useful in capacitors, especially at radio frequencies. Dielectric materials are also used in the construction of radio-frequency transmission lines.

145. (D) The **Kessler syndrome** (also called the **Kessler effect**,**collisional cascading** or **ablation cascade**), proposed by the NASA scientist Donald J. Kessler in 1978, is a scenario in which the density of objects in low Earth orbit (LEO) is high enough that collisions between objects could cause a cascade—each collision generating space debris that increases the likelihood of further collisions.

146. (C)

147. (A) The International Criminal Police Organization (INTERPOL) is a law enforcement organization that coordinates investigations made by the police forces of member countries into crimes with an international dimension.

148. (C)

149. (B) Jashne Bachpan is an event to showcase the work of different theatre groups, representing multiple regions and languages, that work with and for children. Emerging and prominent theatre directors and theatre groups alike participate in this event. It is organized by **National School Of Drama.**

150. (A) **Cobra Gold** is an Asia-Pacific military exercise held in Thailand every year. It is the largest Asia-Pacific military exercise held each year, and is among the largest multinational military exercise in which the United States participates.

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Abundant	Plentiful	izpqj
Acceded	Request	eku ysuk
Arduous	Difficult and tiring	dfBu
Assassinate	Murder, slaughter	gR;k
Assertive	Confident, determined	fu'p;kRed
Assimilate	Absorb, digest	ipkuk
Bawdy	Humorously indecent	v'yhy
Clumsy	Awkward, ungraceful	csMkSy] vukMh
Compunction	A feeling of guilt	iNrkok
Cumbersome	Complicated, unmanageable	tfVy] Hkkjh
Deceived	Cheat	/ks[kk nsuk
Drastically	Extreme in effect or action	Hkh"k.k
Eradicate	Destroy completely, put an end to	tM+ ls m[kkM+uk
Exertion	Strain, struggle	ruko
Extensive	Large, substantial	O;kid
Fulminate	Protest, rage	HkRlZuk
Garrulous	Talkative	cdoknh
Gluttony	Over consumption	isVwiu
Gnaw	Chew, bite	dqrjuk
Hew	Chop, cut	dkVdj VqdM+s djukVuk
Imminent	Close, near	djhc
Inferred	Conclude	rdZ djuk
Insensible	Senseless	csgks'k
Instinct	Typically fixed pattern of behaviour	LoHkkod
Invigorate	Revitalize, energize	vkfr
Isolation	Social separation of a person	iFkdRo

Languish	To become weak or feeble	nqZy gksuk
Massacre	The act of killing a large number of humans/slaughter	ujlagkj
Oasis	A fertile or green area in a desert	e#LFky ds chp gjr Hkjk
Peculiar	Not ordinary, oddly strange	vuksBk] vuwBk
Pedantic	Overly concerned with minute details	#f<oknh
Pleasant	Enjoyable and agreeable	#fpdj] [kqkuqek
Reluctant	Unwilling, opposing	vfuPNqd] izfrdwy
Revolutions	A sudden and radical change in something	Øafr
Rhetorical	Concerned with effect or style rather than content	vyadkfjd
Swat	To strike or hit with a sharp blow	'kDr'kyhi gkj
Synoptic	Relating to a synopsis, presenting a general view	lekUr;] voyksdu
Taciturn	Habitually untalkative	vYirHkk"kh
Unequivocal	Clear and Unambiguous	lqi"V
Verbose	Using too many words	'kCnkMacjiwZ
Viable	Capable of becoming actual	O;ogk;Z
Wry	Distorted; lopsided	,saBk] ejksM+k gqvk

SSC MOCK TEST -168 (ANSWER KEY)

1.	(D)	26.	(A)	51.	(A)	76.	(C)	101.	(C)	126.	(A)	151.	(B)	176.	(A)
2.	(A)	27.	(A)	52.	(C)	77.	(D)	102.	(B)	127.	(C)	152.	(B)	177.	(B)
3.	(D)	28.	(C)	53.	(C)	78.	(C)	103.	(A)	128.	(C)	153.	(B)	178.	(A)
4.	(D)	29.	(A)	54.	(C)	79.	(C)	104.	(B)	129.	(D)	154.	(A)	179.	(B)
5.	(D)	30.	(D)	55.	(B)	80.	(C)	105.	(A)	130.	(B)	155.	(C)	180.	(C)
6.	(D)	31.	(C)	56.	(D)	81.	(B)	106.	(B)	131.	(A)	156.	(A)	181.	(D)
7.	(C)	32.	(B)	57.	(A)	82.	(A)	107.	(B)	132.	(C)	157.	(D)	182.	(C)
8.	(D)	33.	(A)	58.	(A)	83.	(D)	108.	(A)	133.	(B)	158.	(C)	183.	(A)
9.	(C)	34.	(C)	59.	(D)	84.	(D)	109.	(A)	134.	(A)	159.	(B)	184.	(B)
10.	(D)	35.	(D)	60.	(D)	85.	(B)	110.	(C)	135.	(A)	160.	(B)	185.	(A)
11.	(D)	36.	(C)	61.	(A)	86.	(D)	111.	(B)	136.	(B)	161.	(D)	186.	(C)
12.	(C)	37.	(A)	62.	(B)	87.	(B)	112.	(D)	137.	(A)	162.	(C)	187.	(C)
13.	(A)	38.	(A)	63.	(D)	88.	(C)	113.	(D)	138.	(B)	163.	(D)	188.	(D)
14.	(D)	39.	(D)	64.	(C)	89.	(B)	114.	(B)	139.	(C)	164.	(C)	189.	(D)
15.	(D)	40.	(A)	65.	(D)	90.	(A)	115.	(C)	140.	(A)	165.	(A)	190.	(C)
16.	(B)	41.	(C)	66.	(C)	91.	(C)	116.	(A)	141.	(C)	166.	(C)	191.	(B)
17.	(C)	42.	(A)	67.	(B)	92.	(C)	117.	(C)	142.	(D)	167.	(B)	192.	(B)
18.	(D)	43.	(B)	68.	(B)	93.	(A)	118.	(A)	143.	(C)	168.	(C)	193.	(C)
19.	(A)	44.	(B)	69.	(B)	94.	(D)	119.	(C)	144.	(C)	169.	(A)	194.	(B)
20.	(D)	45.	(D)	70.	(C)	95.	(B)	120.	(D)	145.	(D)	170.	(A)	195.	(C)
21.	(B)	46.	(C)	71.	(B)	96.	(D)	121.	(D)	146.	(C)	171.	(A)	196.	(C)
22.	(C)	47.	(A)	72.	(C)	97.	(C)	122.	(A)	147.	(A)	172.	(B)	197.	(B)
23.	(A)	48.	(A)	73.	(B)	98.	(D)	123.	(C)	148.	(C)	173.	(B)	198.	(C)
24.	(A)	49.	(B)	74.	(A)	99.	(B)	124.	(A)	149.	(B)	174.	(A)	199.	(A)
25.	(A)	50.	(D)	75.	(C)	100.	(D)	125.	(A)	150.	(A)	175.	(B)	200.	(A)

Explanation

151. (B) Remove **'a'** before **'hard-working person'**.
When two adjectives are used for a same person or thing, don't use article with second adjective.

152. (B) Use **'excellent'** in place of **'excellence'**.
Here **'qualities'** is a noun and noun quality is denoted by adjective. **'Excellence'** is a noun and **'Excellent'** is an adjective.

153. (B) Use **'than'** in place of **'to'**.

154. (A) Use **'are'** in place of **'have'**. Because for **'to stay'** or **'to remain'** we use the form of **'be'** i.e. is, am, are, was, were or been.

155. (C) Use **'because of'** in place of **'because'**.

Note:-1. For any issue related to **RESULT** Processing, kindly contact us on **8287200200.**

2. If your opinion differs regarding any answer, please message the mock test and question number to **8287900900.**

3. For any complaint / suggestion, **Call / Msg. or Whatsapp to 8287500500.**