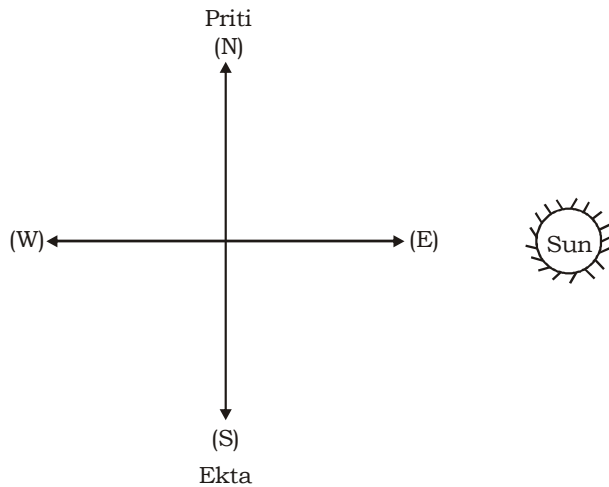




9. (A) As,  
 $32 \Rightarrow 32 + 23 = 55$   
 $55 \Rightarrow 55 + 55 = 110$   
 Similarly,  
 $68 \Rightarrow 68 + 86 = 154$   
 $154 \Rightarrow 154 + 451 = 605$
10. (C) cldkr/cldkr/cldkr
11. (D)
12. (C) **In the first column,**  
 $52 + 18 - 45 = 25$   
**In the second column,**  
 $19 + 73 - 61 = 31$   
**In the third column,**  
 $18 + 84 - 25 = 77$
13. (D)  $52 + 25 \times 4 - 8 \div 6 \times 4 \text{ of } 3 = 217$   
 After Changing the 52 and 25 with each other,  
 $25 + 52 \times 4 - 8 \div 6 \times 4 \text{ of } 3 = 217$   
 $25 + 208 - 8 \div 6 \times 12 = 217$   
 $25 + 208 - \frac{8}{6} \times 12 = 217$   
 $233 - 16 = 217$
14. (D) 5. Solitude → 1. Solution → 2. Solvent → 3. Someone → 6. Summon → 4. Surmounted
15. (C) Let the total number of students be  $3a$ .  
 Number of students in class X =  $a$   
 Number of students in class Y =  $3a$   
 ATQ,  
 $a + 20 = \frac{3a}{2}$   
 $2a + 40 = 3a$   
 $a = 40$   
 Total number of students =  $40 \times 3 = 120$   
 Required % =  $\left(\frac{20}{120} \times 100\right)\% = 16\frac{2}{3}\%$
16. (C)
17. (B) Angle made by hour hand in hours =  $360^\circ$   
 Angle made by hour hand in 5 hours 10 minutes, i.e.  $\frac{31}{6}$  hours  
 $= \left(\frac{360}{12} \times \frac{31}{6}\right)^\circ = 155^\circ$
18. (A)

19. (C)



Hence, Ekta is facing to South direction.

20. (C) Yesterday Today  
           ↓              ↓  
       Monday  Tuesday

Today is Tuesday. So, after 7 days, it will be Tuesday and after 3 days of Tuesday will be Friday.

21. (D)  $5 \xrightarrow{\times 2} 10$ ;  $23 \xrightarrow{\times 4} 92$ ;  $31 \xrightarrow{\times 6} 186$

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

28. (C) Under the original Constitution of J & K (1957), the head of the state and the head of the government were designated as Sadar-i-Riyasat (President) and WazirH-Azam (Prime Minister) respectively. In 1965, they were redesignated as Governor and Chief Minister respectively. Also, the head of the state was to be elected by the state assembly.

31. (B) Historians divide the ancient history of Egypt into three periods: the Old Kingdom, the Middle Kingdom and the New Kingdom. The Old Kingdom is called the Age of the Pyramids.

34. (D) The correct answer is Radiocarbon dating. The advent of radiocarbon dating has been used to fix the date of the Harappan Civilization

36. (B) The centripetal force having been removed the body cannot execute the curved path.

37. (B) Aryabhata, the first Indian space satellite, was launched for India on April 19, 1975. Later, Bhasker-I, an Earth observation satellite, was launched for India on June 7, 1979.

39. (C) The Narmada rises near Amarkantak. The Narmada is the largest of all the west flowing rivers of the Peninsular India. It rises from the western flanks of Amarkantak plateau about  $20^{\circ}40'N$  at an elevation of 1057 m in Shahdol district of Madhya Pradesh and flows westwards through a rift valley (formed due to faulting) between the Vindhyan Range on the north and the Satpura Range on the south. Its total length from its source in Amarkantak to its estuary in the Gulf of Khambhat is 1310 km. On its way to the sea, the Narmada creates many picturesque locations. The 'Marble Rocks', near Jabalpur where the Narmada flows through a deep gorge, and the 'Duandhar Falls' (cloud of mist), where the river plunges over steep rocks are some of the notable ones. All the tributaries of the Narmada are very short and most of these join the main stream at right angles. Narmada basin covers parts of Madhya Pradesh and Gujarat.

41. (B) Namdeva (1426-1506 AD) was the first in Maharashtra to preach against caste, image-worship and rituals and ceremonies. He laid emphasis on the true devotion and worship of god. The only way of salvation is the worship of true name. Namdeva preached the oneness of Godhood. According to him the God of the Hindus and the Muslims as well as the Brahmanas and the Chandals is one and the same and so all are equal.
42. (D) The group of small pieces of rock revolving around the sun between the orbits of mars and Jupiter are called asteroids.
43. (C) The basis for vaccination began in 1796 when the English doctor Edward Jenner noticed that milkmaids who had gotten cowpox were protected from smallpox.
44. (A) Diarthroses. Most joints in the adult body are diarthroses, or freely movable joints. The singular form is diarthrosis. In this type of joint, the ends of the opposing bones are covered with hyaline cartilage, the articular cartilage, and they are separated by a space called the joint cavity.
45. (C) By the late 1830s, botanist Matthias Schleiden and zoologist Theodor Schwann were studying tissues and proposed the unified cell theory. The unified cell theory states that: all living things are composed of one or more cells; the cell is the basic unit of life; and new cells arise from existing cells.
48. (A) Geosynchronous Satellite Launch Vehicle (GSLV): It is equipped with a cryogenic engine. It is capable of carrying communication satellites that are about one tonne heavier.
51. (A) Let the total work = 120 units

$$\text{Total work done by K and R in 30 days} = \left( \frac{120}{60} + \frac{120}{120} \right) \times 30 = 90 \text{ units}$$

$$\text{Remaining work done by S} = 120 - 90 = 30 \text{ units}$$

$$\text{Percentage of work done by S} = \left( \frac{30}{120} \times 100 \right) \% = 25\%$$

$$\therefore \text{Share of S} = 4800 \times \frac{25}{100} = ₹ 1200$$

52. (C) Ratio of their profit =  $(8000 \times 12) : (6400 \times 4 + 5600 \times 8) : (2400 \times 4 + 2000 \times 8)$   
 $= 96000 : 70400 : 25600 = 240 : 176 : 64$

$$\therefore \text{Share of B} = \frac{9120}{480} \times 176 = ₹ 3344$$

53. (B) Let the quantity of A = 3x  
 Quantity of B = 5x

$$\text{Quantity of A} = \frac{32}{8} \times 3 = 12 \text{ litres}$$

$$\text{Quantity of B} = \frac{32}{8} \times 5 = 20 \text{ litres}$$

After removing the mixture and replaced by A.  
 ATQ,

$$\frac{3x - 12 + 32}{5x - 20} = \frac{5}{3}$$

$$\frac{3x + 20}{5x - 20} = \frac{5}{3}$$

$$9x + 60 = 25x - 100$$

$$16x = 160$$

$$x = 10 \text{ litres}$$

$$\therefore \text{Total capacity} = 3x + 5x \\ = 8x = 8 \times 10 = 80 \text{ litres}$$

54. (A) Let the total distance be  $3d$  km.

Now,

$$x \times \frac{5}{2} = 2d$$

$$5x = 4d \quad \dots\dots(i)$$

Again,

$$(x + 2) \times \frac{50}{60} = d$$

$$5(x + 2) = 6d \quad \dots\dots(ii)$$

On dividing (ii) by (i), we get

$$\frac{[5(x + 2)]}{5x} = \frac{6d}{4d}$$

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

$$2x + 4 = 3x$$

$$x = 4$$

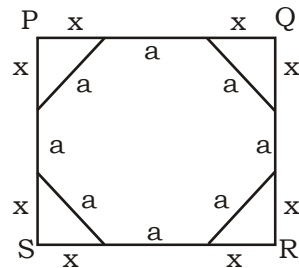
Put the value of  $x$  in equation (i),

$$5 \times 4 = 4d$$

$$d = 5$$

$\therefore$  Total distance =  $3d = 3 \times 5 = 15$  km

55. (C)



$a$  = side of octagon

$x$  = part cut from the side,

Now,

$$x^2 + x^2 = a^2$$

$$2x^2 = a^2$$

$$x = \frac{a}{\sqrt{2}}$$

Also,  $2x = 25 - a$

$$2 \times \frac{a}{\sqrt{2}} = 25 - a$$

$$\sqrt{2}a + a = 25$$

$$a(\sqrt{2} + 1) = 25$$

$$a = \frac{25}{\sqrt{2} + 1} = 25(\sqrt{2} - 1) \text{ cm}$$

56. (B)  $68 - 4(2 + 24 \div 4 \times 5 - 3 \times 7) + 9$   
 $= 68 - 4(2 + 6 \times 5 - 3 \times 7) + 9$   
 $= 68 - 4(32 - 21) + 9$   
 $= 68 - 44 + 9$   
 $= 77 - 44 = 33$

57. (D) Required marked price =  $\frac{63000}{70} \times 100 \times \frac{100}{90} = ₹ 100000$

58. (A)  $P = ₹ 768$

$A = ₹ 972$

$R = 12.5\%$

Now,  $A = P \left(1 + \frac{R}{100}\right)^T$

$972 = 768 \left(1 + \frac{12.5}{100}\right)^T$

$\frac{972}{768} = \left(\frac{9}{8}\right)^T$

$\frac{81}{64} = \left(\frac{9}{8}\right)^T$

$\left(\frac{9}{8}\right)^2 = \left(\frac{9}{8}\right)^T$

$T = 2$  years

59. (B)  $\sin\theta + \operatorname{cosec}\theta = 2$

$\sin\theta + \frac{1}{\sin\theta} = 2$

$\sin^2\theta + 1 = 2 \sin\theta$

$\sin^2\theta + 1 - 2 \sin\theta = 0$

$(\sin^2\theta - 1) = 0$

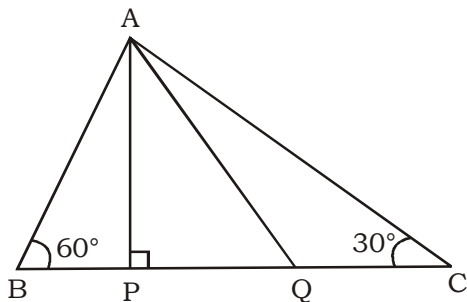
$\sin\theta = 1$

$\therefore \sin^2\theta + \operatorname{cosec}^2\theta$

$= \sin^2\theta + \frac{1}{\sin^2\theta}$

$= 1 + 1 = 2$

60. (D)



Given, AP is perpendicular to BC, and AQ is the bisector of angle PAC.

In  $\triangle ABP$ ,

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

$$\angle ABP = 60^\circ$$

$$\text{So, } \angle BAP = 180^\circ - (90^\circ + 60^\circ) = 30^\circ$$

Now in  $\triangle ABC$ ,

$$\angle ABC = 60^\circ, \angle ACB = 30^\circ$$

$$\text{So, } \angle BAC = 180^\circ - (60^\circ + 30^\circ) = 90^\circ$$

$$\text{And } \angle BAC = \angle BAP + \angle PAQ + \angle QAC$$

Since, AQ is the bisector of angle PAC.

$$\text{So, } \angle PAQ = \angle QAC$$

$$\angle BAC = \angle BAP + 2\angle PAQ$$

$$90^\circ = 30^\circ + 2\angle PAQ$$

$$2\angle PAQ = 60^\circ$$

$$\text{Hence, } \angle PAQ = 30^\circ$$

61. (D) Ratio of volume of tank A and B = 6 : 5

Water increase in tank A = 30%

Let the volume of tank A and B = 4x and 5x

$$\text{Increased volume of tank A} = \text{Initial volume} + \text{Increase} = 6x + \frac{6x \times 30}{100} = 7.80x$$

$$\text{So, the increased volume of tank B to become same as tank A} = 7.80x - 5x = 2.80x$$

$$\text{So, the percentage of increased volume} = \left( \frac{2.80x}{5x} \times 100 \right) \% = 56\%$$

The increased volume of tank B is 56% to be equal with tank A.

62. (B)  $\tan^2\theta - 3\sec^2\theta + 3 = 0$

$$-(\sec^2\theta - \tan^2\theta) - \sec^2\theta - 3 = 0$$

$$-1 + 3 = 2\sec^2\theta$$

$$2\sec^2\theta = 2$$

$$\sec^2\theta = 1$$

$$\sec\theta = \pm 1$$

$$\sec\theta = \sec 0^\circ \text{ or } \sec 180^\circ$$

$$\therefore \theta = 0^\circ \quad (\text{since } \theta \leq 90^\circ)$$

63. (C)  $7p^2 + 7p = 7p(p + 1)$ , which is always divisible by 7 and 14 both. Because as we know that  $p(p + 1)$  is always even.

So, 7 and 14 will be the answer.

64. (C) Let the three parts be x, y and Z respectively.

ATQ,

$$\frac{x \times 3 \times 1}{100} = \frac{y \times 4 \times 1}{100} = \frac{z \times 6 \times 1}{100}$$

$$0.03x = 0.04y = 0.06z$$

$$\frac{x}{y} = \frac{4}{3} \text{ and } \frac{y}{z} = \frac{3}{2}$$

$$x : y : z = 4 : 3 : 2$$

$$\therefore \text{Amount invested at } 6\% = \frac{2}{5} \times 11250 = ₹ 2500$$

65. (A)  $a^3 + b^3 + c^3 - 3abc = (a + b + c) \frac{1}{2} [(a - b)^2 + (b - c)^2 + (c - a)^2]$

$$= (250 + 251 + 252) \frac{1}{2} [(250 - 251)^2 + (251 - 252)^2 + (252 - 250)^2]$$

$$= 753 \times \frac{1}{2} \times [1 + 1 + 4] = 753 \times \frac{1}{2} \times 6 = 2259$$

66. (B) In semi-circle, the diameter is the base of the semi-circle.

To maximize the area, the height should be maximum.

And in semi-circle, maximum height is equal to the radius.

Therefore, area of the largest triangle that can be inscribed in a semi-circle of radius 4 cm.

$$= \frac{1}{2} \times \text{base} \times \text{height} = \frac{1}{2} \times (2r) \times (r)$$

$$= \frac{1}{2} \times 8 \times 4 = 56 \text{ cm}^2$$

67. (B) Area of square = 1764 sq. cm

$$\text{Side} = \sqrt{1764} = 42 \text{ cm}$$

$$\text{Radius of circle} = 42 \text{ cm}$$

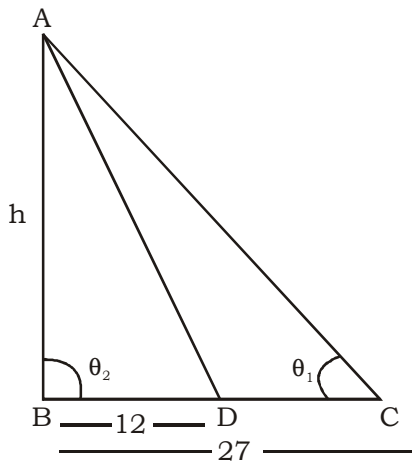
$$\text{Length of rectangle} = 42 \times \frac{2}{3} = 28 \text{ cm}$$

$$\text{Breadth} = 15 \text{ cm}$$

$$\therefore \text{Area} = 28 \times 15 = 420 \text{ cm}^2$$



68. (C)



Given,  $\theta_1 + \theta_2 = 90^\circ$

$$h = 27 \tan \theta_1$$

$$\frac{h}{27} = \tan \theta_1 \quad \dots \text{From (i)}$$

$$h = 12 \tan \theta_2$$

$$h = 12 \tan(90 - \theta_1)$$

$$h = 12 \cot \theta_1$$

$$\frac{h}{12} = \cot \theta_1$$

$$\tan \theta_1 = \frac{12}{h} \quad \dots \dots \text{(ii)}$$

From (i) and (ii),

$$h = 18 \text{ ft}$$

69. (A) Let  $\angle AOB = 2x$

The chord AB subtends double the angle that is subtended by chord CD.

Then,  $\angle COD = x$

As OA and OB are radius of the same circle.

$$OA = OB$$

$$\angle BAO = \angle ABO = \theta \quad (\text{SAY})$$

Now in triangle AOB

$$\angle AOB + \angle ABO + \angle BAO = 180^\circ$$

$$2x + \theta + \theta = 180^\circ$$

$$2\theta = 180^\circ - 2x$$

$$\theta = 90^\circ - x \quad \dots \dots \text{(i)}$$

We know that radius is perpendicular to the tangent at point of contact.

$$\angle OAE = \angle OBE = 90^\circ \quad \dots \dots \text{(ii)}$$

From (i) and (ii),

$$\angle BAE = \angle ABE = x$$

Also,  $\angle AEB = 2\angle AOB$

$$\angle AEB = 4x$$

In triangle AEB,

$$\angle BAE + \angle ABE + \angle AEB = 180^\circ$$

$$x + x + 4x = 180^\circ$$

$$6x = 180^\circ$$

$$x = 30^\circ$$

Hence,  $\angle COD = 30^\circ$

70. (C) If  $59a44b$  is divisible by 36 then  $59a44b$  must be divisible by 4 and 9.

We know that a number  $X$  is divisible by 4 if number formed by last two digit is divisible by 4.

Consider  $59a44b$

Number formed by last two digits =  $4b$

If  $4b$  is divisible by 4 then  $b$  can take values 0, 4, 8

Now, We know that a number is divisible by 9, if sum of digits is divisible by 9.

Take  $b = 8$

Resultant number =  $59a448$

Sum of digits =  $5 + 9 + a + 4 + 4 + 8 = 30 + a$

If  $a = 6$

$30 + a = 30 + 6 = 36$  and 36 is divisible by 9.

Hence, Maximum value of  $3a + 2b = 24 + 12 = 36$

71. (A) Selling price of TV =  $5000 \times \frac{100}{10} \times \frac{90}{100} = 45000$

Marked price of laptop =  $45000 + 15000 = 60000$

$$\therefore \text{Required\%} = \left( \frac{45000}{60000} \times 100 \right) \% = 75\%$$

72. (C) Total cost price of all items =  $5000 \times \frac{100}{10} \times \frac{90}{120} + 25000 + 20000 \times \frac{100}{80} + 40000 + (45000 - 15000) + 40000 = 197500$

Total marked price of all items

$$= 5000 \times \frac{100}{10} + 40000 + (20000 + 15000) + 4000 \times \frac{140}{70} + (45000 + 15000) + 40000 \times \frac{75}{60}$$

$$= 315000$$

$$\text{Profit} = 315000 - 197500 = 117500$$

$$\therefore \text{Required\%} = \left( \frac{117500 \times 100}{197500} \right) \% = 59.4\%$$

73. (B) Total selling price =  $5000 \times \frac{90}{100} + 40000 \times \frac{80}{100} + 20000 + 40000 \times \frac{140}{100} + 45000 + \frac{75}{100}$   
 = 228000

74. (D) Total profit amount =  $5000 \times \frac{100}{10} \times \frac{90}{120} \times \frac{20}{100} + \left( 40000 + \frac{80}{100} - 25000 \right)$   
 $+ \left( 20000 - 20000 \times \frac{100}{80} \right) + 40000 \times \frac{40}{100} + 15000 - 40000 \times \frac{25}{100}$   
 = 7500 + 7000 - 5000 + 16000 + 15000 - 10000 = 30500

Required average =  $\frac{30500}{6} = 5083.3$

75. (A) Marked price of AC =  $40000 \times \frac{140}{70} = 80000$

Marked price of Music System  $40000 \times \frac{75}{60} = 50000$

Required ratio = 80000 : 50000 = 8 : 5

**MEANINGS IN ALPHABETICAL ORDER**

|             |  |              |
|-------------|--|--------------|
| Apathy      | lack of interest, enthusiasm, or concern                           | उदासीनता     |
| Complacent  | self-satisfied   | आत्मसंतुष्ट  |
| Discrete    | individually separate and distinct                                 | अलग          |
| Gloomy      | dark or poorly lit   | अंधेरा       |
| Grim        | forbidding or uninviting   | निष्ठुर      |
| Illicit     | forbidden by law, rules, or custom                                 | अवैध         |
| Jubilant    | feeling or expressing great happiness                              | प्रसन्नचित्त |
| Laudable    | (of an action, idea, or goal) deserving praise and commendation    | प्रशंसनीय    |
| Paucity     | the presence of something only in small or insufficient quantities | कमी          |
| Prodigious  | great in extent, size, or degree                                   | बहुत बड़ा    |
| Rectify     | put (something) right  | संशोधन करना  |
| Reiterate   | repeat or say again  | दोहराना      |
| Serenity    | the state of being calm, peaceful, and untroubled                  | शांति        |
| Severity    | the fact or condition of being severe                              | तीव्रता      |
| Superiority | the state of being superior  | श्रेष्ठता    |
| Vitality    | the state of being strong and active                               | जीवन-शक्ति   |
| Zeal        | great energy or enthusiasm in pursuit of a cause or an objective   | उत्साह       |

**SSC MOCK TEST - 384 (ANSWER KEY)**

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