



KD Campus

**K D Campus Pvt. Ltd**

1997, GROUND FLOOR OPPOSITE MUKHERJEE NAGAR POLICE STATION, OUTRAM LINES, GTB NAGAR, NEW DELHI - 09

**SSC MOCK TEST - 298 (SOLUTION)**

1. (D) As,

Similarly,

$$\begin{array}{ccc} 3 & 2 & 1 \\ \downarrow 3^2 & \downarrow 2^2 & \downarrow 1^2 \\ 9 & 4 & 1 \end{array}$$

$$\begin{array}{ccc} 6 & 3 & 1 \\ \downarrow 6^2 & \downarrow 3^2 & \downarrow 1^2 \\ 36 & 9 & 1 \end{array}$$

2. (D) Ostrich gives Egg, while Tree gives Fruit.

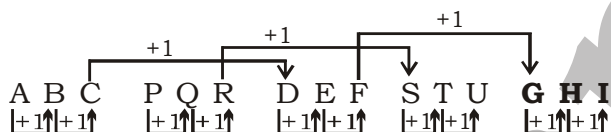
3. (D) Except 1527, others are perfect square number.

4. (A) Except 'BLACK', others have two vowels.

5. (B) Except Groundnut, others are spices.

6. (B)  $6 \times 0.5 + 1 = 4$   
 $4 \times 1 + 2 = 6$   
 $6 \times 2 + 3 = 15$   
 $15 \times 4 + 4 = 64$   
 $64 \times 8 + 5 = \mathbf{517}$   
 $517 \times 16 + 6 = 8278$

7. (B)



8. (C) As,

$9 + 5 = 14$   
 $14 + 10 = 24$   
 $24 + 15 = 39$   
 Similarly,  
 $13 + 5 = 18$   
 $18 + 10 = 28$   
 $28 + 15 = 43$

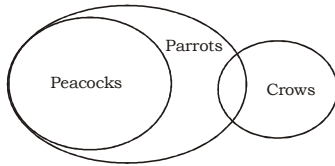
9. (C) As,

$32.5 + 4.5 = 37.0$   
 $37.0 + 6.5 = 43.5$   
 Similarly,  
 $10.5 + 4.5 = 15.0$   
 $15.0 + 6.5 = 21.5$

10. (B) As,

	N	U	M	B	E	R
	↓	↓	↓	↓	↓	↓
	2	5	6	8	9	7
And,	B	A	R	R	E	N
	↓	↓	↓	↓	↓	↓
	8	4	7	7	9	2
Similarly,	R	U	B	B	E	R
	↓	↓	↓	↓	↓	↓
	7	5	8	8	9	7

11. (C)



I. Doubt    II. False    III. Doubt

Hence, either conclusion I or III follows.

12. (C)

27	18	42
35	<b>36</b>	16
25	33	29

= 87  
= 87  
= 87  
= 87    = 87    = 87

13. (A)

$$4^2 + \frac{4}{2} = 16 + 2 = 18$$

$$8^2 + \frac{8}{2} = 64 + 4 = 68$$

$$12^2 + \frac{12}{2} = 144 + 6 = \mathbf{150}$$

$$4^2 + \frac{4}{2} = 16 + 2 = 18$$

14. (C)

3. Great Pyramid → 5. Giza → 1. Egypt → 2. Africa → 4. World

15. (C)

Let the age of Priti 10 years from now be x years.

Her grandfather's age 10 years from now = 4x year

Present age of Priti = (x - 10) years

Present age of her grandfather = (4x - 10) years

ATQ,

$$(x - 10 + 4x - 10) = 60$$

$$5x = 60 + 20$$

$$5x = 80$$

$$x = 16 \text{ years}$$

∴ Present age of Priti = (16 - 10) = 6 years

16. (C)

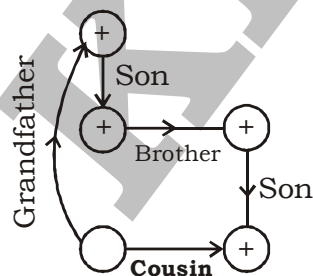
304 N 8 M 29 O 49 P 7

After changing the signs as per the given details,

$$304 \div 8 - 29 + 49 \times 7$$

$$= 38 - 29 + 343 = 352$$

17. (D)



18. (C)

19. (B) mnpq/stvw/yzbc/efhi

20. (C)

21. (C)

22. (C)

23. (D)

24. (D)

25. (C)

26. (B) Article 3 of Indian Constitution addresses the topic of Formation of new States and alteration of areas, boundaries or names of existing States. The Constitution of India is the supreme law of our country and hence every law enacted by the government of India must conform to it.
27. (B) The Treaty of Mangalore was signed between Tipu Sultan and the British East India Company on 11 March 1784. It was signed in Mangalore and brought an end to the Second Anglo-Mysore War.
28. (A) Sri Lanka currently has nine provinces, seven of which have had provincial councils from the start.
30. (B) The naval Battle of Swally, also known as Battle of Suvali, took place on 29–30 November 1612 off the coast of Suvali (anglicised to Swally) a village near the Surat city (now in Gujarat, India) and was a victory for four English East India Company galleons over four Portuguese galleons and 26 barks.
31. (A) Indus is the longest river in Pakistan that originates from Lake Manasarovar. In terms of annual water flow, it is the 21st largest river of the world. It is also known as Pakistan's lifeline and is 3,180 km long. Sutlej river flows through northern India and Pakistan and is a tributary of the river Indus.
35. (D) In economics, the product market is the marketplace where final goods or services are sold to businesses and the public sector.
37. (A) Bihar Diwas, or Bihar Day, is observed on 22 March every year. It marks the formation of the state of Bihar when the state was carved out from the Bengal Presidency by the British in the year 1912.
39. (C) Baking soda is also known as sodium hydrogen carbonate.
40. (D) Mankiw's eighth principle of economics is: a country's standard of living depends on its ability to produce goods and services. He points out that there are vast differences between the average incomes of different countries.
41. (A) Photometer is used to measure the intensity of light produced by an unknown source in terms of a standard source. It is an instrument that measures the strength of electromagnetic radiation in the range from ultraviolet to infrared and including the visible spectrum.
42. (B) When the output is equal to zero, the variable cost is zero. Variable costs are those that depend on the level of output.
43. (A) Kazi Nazrul Islam was a Bengali poet, writer, musician and the national poet of Bangladesh. Popularly known as Nazrul, he produced a large body of poetry and music with themes that included religious devotion and rebellion against oppression.
44. (D) Vasco da Gama landed at Calicut (now Kozhikode) in 1498.
45. (D) Diphu Pass is a mountain pass around the area of the disputed tri-point borders of India, China, and Myanmar. Diphu Pass is also a strategic approach to eastern Arunachal Pradesh. It lies on the McMahon Line.
46. (C) Daringbadi is a hill station in Kandhmal district of Odisha state in eastern India. Widely known as "Kashmir of Odisha", (for its climatic similarity), it is situated at a height of 915 metres and is a popular tourist destination.
48. (A) Fertile riverine alluvial soil is best suited for producing sugarcane, rice, and plantain. Alluvial soil is rich in potassium. Red soil is ideal for crops like corn, red gram, Bengal gram, green gram, groundnut, and castor seed.
51. (B) Three years ago, the average age of P and Q =  $x$  years  
Total age =  $2x$  years  
Present age of P and Q =  $(2x + 6)$  years  
Total age of P, Q and R =  $16 \times 3 = 48$  years

ATQ,

$$2x + 6 + 18 = 48$$

$$2x = 48 - 24$$

$$x = \frac{24}{2} = 12 \text{ years}$$

Total age of P and Q, three years ago =  $12 \times 2 = 24$  years

P's age =  $(y + 2)$  years

ATQ,

$$y + y + 2 = 24$$

$$2y = 22 \text{ years}$$

$$y = \frac{22}{2} = 11 \text{ years}$$

$\therefore$  Age of Q, three year ago = 11 years

52. (D) Let the cost price be ₹ 100 and the transportation cost be ₹ x.

$$\text{Selling price} = 100 \times \frac{120}{100} = ₹ 120$$

ATQ,

$$120 = (100 + x) \left( 1 - \frac{50}{3 \times 100} \right)$$

$$120 = (100 + x) \left( 1 - \frac{1}{6} \right)$$

$$120 = (100 + x) \times \frac{5}{6}$$

$$120 = \frac{500}{6} + \frac{5x}{6}$$

$$\frac{5x}{6} = 120 - \frac{500}{6}$$

$$\frac{5x}{6} = \frac{720 - 500}{6}$$

$$5x = 220$$

$$x = ₹ 44$$

$$\therefore \text{Required \%} = \left( \frac{44}{120} \times 100 \right) \% = 36\frac{2}{3} \%$$

53. (A) Let the whole sum be ₹ 100.

$$\text{First sum} = 100 \times \frac{30}{100} = ₹ 30$$

$$\text{Interest on first sum in 1 year} = \frac{30 \times 18 \times 1}{100} = ₹ 5.4$$

$$\text{Remaining amount} = 100 - 30 = ₹ 70$$

$$\text{Second sum} = 70 \times \frac{40}{100} = ₹ 28$$

$$\text{Interest on second sum in 1 year} = \frac{28 \times 15 \times 1}{100} = ₹ 4.2$$

$$\text{Third sum} = 100 - (30 + 28) = ₹ 42$$

$$\text{Interest on third sum in 1 year} = \frac{42 \times 12 \times 1}{100} = ₹ 5.04$$

$$\text{Total interest} = 5.4 + 4.2 + 5.04 = 14.64$$

$$\therefore \text{Rate of interest on whole sum} = \frac{14.64 \times 100}{100 \times 1} = 14.64\%$$

54. (B) Let C invested ₹ 6.

$$A \text{ invested} = ₹ 2$$

$$B \text{ invested} = ₹ 4$$

$$\text{Ratio of their profit} = 2 \times 12 : 4 \times 10 : 6 \times 8 = 3 : 5 : 6$$

$$\therefore A's \text{ share in the profit} = \frac{8034 \times 3}{6} = ₹ 4017$$

55. (A)  $2 \times 3 \div 2 \text{ of } 3 \times 2 \div (4 + 4 \times 4 \div 4 \text{ of } 4 - 4 \div 4 \times 4)$

$$= 2 \times 3 \div 6 \times 2 \div (4 + 4 \times 4 \div 16 - 4 \div 4 \times 4)$$

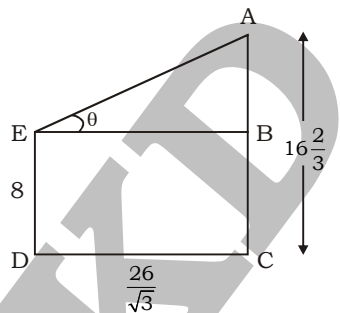
$$= 2 \times 3 \div 6 \times 2 \div \left( 4 + 4 \times 4 \times \frac{1}{16} - 4 \times \frac{1}{4} \times 4 \right)$$

$$= 2 \times 3 \div 6 \times 2 \div (4 + 1 - 4)$$

$$= 2 \times 3 \div 6 \times 2 \div 1$$

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

56. (B)



Let the angle be  $\theta^\circ$ .

In  $\triangle ABE$ ,

$$\tan \theta = \frac{AB}{EB} = \frac{\frac{50}{3} - 8}{\frac{26}{\sqrt{3}}}$$

$$\tan \theta = \frac{50 - 24}{3} \times \frac{\sqrt{3}}{26}$$

$$\tan \theta = \frac{26\sqrt{3}}{26 \times 3} = \frac{1}{\sqrt{3}}$$

$$\tan \theta = \tan 30^\circ$$

$$\therefore \theta = 30^\circ$$

57. (B)  $24^{\sqrt{x}} + 32^{\sqrt{x}} = 40^{\sqrt{x}}$

We know that,

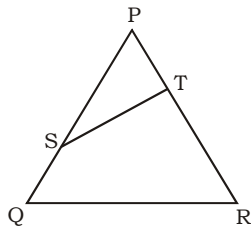
$$(24)^2 + (32)^2 = (40)^2$$

$$\sqrt{x} = 2$$

$$(\sqrt{x})^2 = 4$$

$$\therefore x = 4$$

58. (B)



$\angle PQR = 65^\circ$  and QRTS is a cyclic quadrilateral

$$\angle RTS = 115^\circ$$

$$\angle PTS = 65^\circ$$

In  $\triangle PQR$  and  $\triangle PTS$ ,

$$\angle PTS = \angle PQR \quad (\text{each equal to } 65^\circ)$$

$$\angle QPR = \angle TPS \quad (\text{Common})$$

$$\triangle PQR \sim \triangle PTS \quad (\text{by AA})$$

In  $\triangle PQR$  and  $\triangle PTS$ ,

$$\frac{PR}{PQ} = \frac{PS}{PT}$$

$$\frac{PR}{10} = \frac{6}{5}$$

$$PR = 12$$

$$TR = PR - 5 = 7 \text{ cm}$$

59. (A)  $\frac{1+a}{\frac{1}{a^2} + a^{-\frac{1}{2}}} - \frac{a^{\frac{1}{2}} + a^{-\frac{1}{2}}}{1+a} + a^{-\frac{1}{2}}$

Let  $a^{\frac{1}{2}} = x$

$$\frac{1+x^2}{x + \frac{1}{x}} - \frac{x + \frac{1}{x}}{1+x^2} + \frac{1}{x}$$

$$\frac{x(1+x^2)}{(1+x^2)} - \frac{x^2+1}{x(1+x^2)} + \frac{1}{x}$$

$$x - \frac{1}{x} + \frac{1}{x}$$

$$x = \sqrt{a}$$

60. (C) Volume of prism = Area of base  $\times$  height

Area of base =  $\sqrt{s(s-a)(s-b)(s-c)}$ , where  $s = \frac{a+b+c}{2}$

$$s = \frac{13+12+15}{2} = 20 \text{ cm}$$

Area of Base =  $\sqrt{20(20-13)(20-12)(20-15)} \text{ cm}^2 = 20\sqrt{14} \text{ cm}^2$

$\therefore$  Volume of Prism =  $20\sqrt{14} \times 11 = 220\sqrt{14} \text{ cm}^3$

61. (D) Vimal's present age =  $8 + 2 = 10$  years

ATQ,

Father + 10 =  $2(\text{Vimal} + 10)$

Father + 10 =  $2(10 + 10) = 40$

Father = 30 years

$\therefore$  Neha's present age =  $\frac{1}{6} \times 30 = 5$  years

62. (D) Total marks in History and Maths =  $150 + 100 = 250$

Sushma obtained in History and Maths =  $60\%$  of  $250 = 150$

Therefore, she got in History =  $150 - 90 = 60$

63. (A) Megha saves  $20\%$  of  $40 = ₹ 8$  on each toy.

$\therefore$  She bought =  $\frac{240}{8} = 30$  toys

64. (C) Interest for 2 years =  $10 + 10 + \frac{10 \times 10}{100} = 21\%$

Interest for 3 years =  $21 + 10 + \frac{21 \times 10}{100} = 33.1\%$

ATQ,

$(33.1 - 21)\%$  of  $P = 12100$

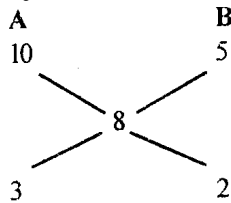
$12.1\%$  of  $P = 12100$

$\therefore P = \frac{12100 \times 100}{12.1} = ₹ 1 \text{ lakh}$

65. (C) CP of 100 kg of mixture = 1100 - 300 = ₹ 800

$$\text{CP of 1 kg of mixture} = \frac{800}{100} = ₹ 8$$

**By the Method of Alligation:**

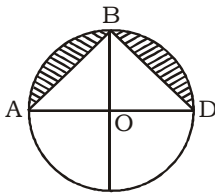


∴ Required ratio = 3 : 2

66. (A) Ratio =  $\frac{1}{3} : \frac{1}{4} : \frac{1}{12} = 4 : 3 : 1$

$$\therefore \text{Total cost of book} = \frac{67.50}{3} \times 8 = ₹ 180$$

67. (C)



$$\text{Radius of circle} = \frac{3a}{2}$$

$$\text{Area of semi-circle} = \frac{\pi}{2} \times \left(\frac{3a}{2}\right)^2 = \frac{9\pi}{8} a^2$$

$$\text{Area of } \triangle ABD = \frac{1}{2} \times 3a \times \frac{3}{2} a = \frac{9}{4} a^2$$

$$\therefore \text{Area of the shaded part} = \frac{9\pi}{8} a^2 - \frac{9}{4} a^2 = \frac{9}{4} a^2 \left(\frac{\pi}{2} - 1\right) \text{ sq unit}$$

68. (D)  $\sqrt{3} \operatorname{cosec} 20^\circ - \sec 20^\circ = \frac{\sqrt{3}}{\sin 20^\circ} - \frac{1}{\cos 20^\circ}$

$$= \frac{\sqrt{3} \cos 20^\circ - \sin 20^\circ}{\sin 20^\circ \cos 20^\circ} = \frac{2 \times \left[\frac{\sqrt{3}}{2} \cos 20^\circ - \frac{1}{2} \sin 20^\circ\right]}{\sin 20^\circ \cos 20^\circ}$$

$$= \frac{2 \times 2 [\sin 60^\circ \cos 20^\circ - \cos 60^\circ \sin 20^\circ]}{2 \times \sin 20^\circ \cos 20^\circ}$$

$$(\because \sin(a - b) = \sin a \cos b - \cos a \sin b)$$

$$= \frac{4 \sin(60^\circ - 20^\circ)}{\sin 40^\circ}$$

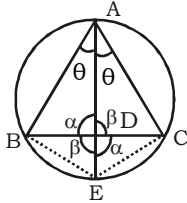
$$(\because \sin 2\theta = 2 \sin \theta \cos \theta)$$

$$= \frac{4 \sin 40^\circ}{\sin 40^\circ} = 4$$



69. (B) Original rate of income tax =  $\left(\frac{1}{19+1} \times 100\right)\% = 5\%$

70. (A)



AD is the bisector of  $\angle BAC$

$\angle EBC = \theta$  {angle in the same segment of a circle}

$\angle BCE = \theta$  {angle in the same segment of a circle}

$\triangle ABD \sim \triangle DCE$  and  $\triangle ADC \sim \triangle BDE$

$$\frac{AB}{EC} = \frac{BD}{DE}$$

$$\frac{AB}{BD} = \frac{EC}{DE} \quad \dots\dots\dots(i)$$

$$\frac{AC}{BE} = \frac{DC}{DE}$$

$$\frac{AC}{DC} = \frac{BE}{DE} \quad \dots\dots\dots(ii)$$

$EC = BE$  [equal angle form equal side]

From (i) and (ii),

$$\frac{AB}{BD} = \frac{AC}{DC} \Rightarrow \frac{AB}{AC} = \frac{BD}{DC}$$

So,  $AB : AC = BD : DC$

71. (A) Total number of employees of KD Defence in the year 2010, 2012 and 2014  
 $= (4.8 + 5.2 + 7.2) \times 100 = 1720$

Total number of employees joining KD tech over all the year together  
 $= (0.75 + 1.2 + 1.8 + 1.65 + 4.25 + 5.2) \times 100 = 1485$

$$\therefore \text{Required \%} = \left(\frac{1720}{1485} \times 100\right)\% = 115.82\% \approx 116\%$$

72. (C) Total number employees joining KD publication in the year 2010 and 2012  
 $= (4.5 + 6.5) \times 100 = 1100$

Total number of employees joining same organisation in the the year 2013 and 2014  
 $= (7.8 + 6.2) \times 100 = 1400$

$$\therefore \text{Required ratio} = 1100 : 1400 = 11 : 14$$

73. (D) Total number of employees joining KD Campus in the year 2010, 2012 and 2015  
 $= (2.8 + 4.5 + 6.5) \times 100 = 1380$

$$\therefore \text{Required difference} = 1380 - 425 = 955$$

74. (B) Required total number of employees =  $(1.8 + 3.2 + 1.5 + 5.2 + 7.5 + 3.8) \times 100 = 2300$

75. (C) Required average =  $\frac{(7.8+1.65+5.2) \times 100}{3}$

$$= \frac{1465}{3} = 488.33 \approx 488$$

## MEANINGS IN ALPHABETICAL ORDER

Blister	a small bubble on the skin filled with serum and caused by friction, burning, or other damage	छाला
Bridle	the headgear used to control a horse, consisting of buckled straps to which a bit and reins are attached	लगाम
Brisk	active, fast, and energetic	तेज
Bristle	a short stiff hair, typically one of those on an animal's skin, a man's face, or a plant	बाल खड़े करना
Brittle	hard but liable to break or shatter easily	नाज़ुक
Censure	express severe disapproval of (someone or something), especially in a formal statement	निंदा
Chatter	talk rapidly or incessantly about trivial matters	बकवास
Collide	hit with force when moving	टकराना
Comply	(of a person or group) act in accordance with a wish or command	पालन करना
Cope	(of a person) deal effectively with something difficult	सामना
Emancipate	free from legal, social, or political restrictions; liberated	स्वतंत्र करना
Extol	praise enthusiastically	प्रशंसा करना
Glower	have an angry or sullen look on one's face; scowl	चमकीला
Gnash	grind (one's teeth) together, typically as a sign of anger	दांत पीसना
Gnaw	bite at or nibble something persistently	दांत से काटना
Grind	reduce (something) to small particles or powder by crushing it	परिश्रम के साथ अध्ययन
Heckle	interrupt (a public speaker) with derisive or aggressive comments or abuse	सवालियों से बात काटना
Liberate	set (someone) free from a situation, especially imprisonment or slavery, in which their liberty is severely restricted	मुक्त करना
Nuisance	a person, thing, or circumstance causing inconvenience or annoyance	बाधा
Ombudsman	an official appointed to investigate individuals' complaints against maladministration, especially that of public authorities	लोकपाल
Scold	remonstrate with or rebuke (someone) angrily	डांटना
Sterilize	make (something) free from bacteria or other living microorganisms	जीवाणुरहित
Wound	an injury to living tissue caused by a cut, blow, or other impact, typically one in which the skin is cut or broken	ज़ख्म

**SSC MOCK TEST - 298 (ANSWER KEY)**

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

76. (A) Expressions “hardly, scarcely and no sooner” – can be used (often with a past perfect tense) to suggest that one thing happened very soon after another.
77. (C) “On call” – If someone is on call, they are ready to go to work at any time if they are needed, especially if there is an emergency. Replace ‘by’ with ‘on’
90. (C) The correct spelling of 'Bristel' is 'Bristle'.
91. (C) The correct spelling of 'Noticable' is 'Noticeable'.