

SOLVED PAPER 2020

MM:300

DURATION: 2 HRS

INSTRUCTIONS

- 1. This question paper consists of 100 questions of 2 hrs duration.
- 2. Each question is of 3 marks.
- 3. For each wrong answer, 1 mark will be deducted.

Directions (Q.Nos. 1-5) You have one brief passage with five questions following the passage. Read the passage carefully and choosed the best answer to each question out of the for alternatives.

Passage

As a result of economic liberalization and entry of a large number of multinational companies into India, the life of most middle class and upper - middle class people in the last two decades of the present century has been characterized by artificiality in dress, manners and conversation and elaborate surface of formality and grace covering a certain amount of vice and a great deal of plain silliness.

- 1. The period discussed in the sentence is
 - (a) from AD 1981 to 1990
- (b) from AD 1981 to 2000
- (c) from AD 1990 to 2000
- (d) from AD 1980 to 2000
- 2. The sentence lays emphasis on the fact that the economic liberalization has
 - (a) raised the standard of living of the middle and upper middle class people
 - (b) made people more artificial outwardly, without change in attitude
 - (c) helped the people dispense with their vicious behaviour
 - (d) removed their poverty and raised their quality of life
- 3. It appears that the author of the sentence criticizes economic liberalization for the people's
 - (a) lack of formality
- (b) poor mannerism
- (c) lack of naturalness
- (d) lack of grace

Based on Memory

- 4. Which of the following is not true about most of the middle and upper-middle class people of the period mentioned in the passage?
 - (a) They are wicked .
- (b) They are formal
- (c) They are witty
- (d) They are silly
- It can be inferred from the sentence that the middle and upper-middle class people of the period lived
 - (a) wicked lives
- (b) conventional lives
- (c) affluent lives
- (d) very simple lives

Directions (Q.Nos. 6-10) Select the most appropriate word from the options against each number.

Passage

It (6) that policing in the future will be (7) more different than it is today. Advances in technology (8) in computers, television and communication will assist the police in solving and preventing crimes. Advances in forensic science (9) evidence more reliable and meaningful. All of these changes will be for the better if they help (10) the quality of police service.

- 6. (a) predicted
 - (c) is predicted -
- (b) has predicted (d) was predicting

- (d) to product
- 7. (a) any

(b) some

(c) such

- (d) much
- 8. (a) particularly
- (b) placidly

(c) roughly

- (d) widely
- 9. (a) had to make
- (b) would be made
- (c) has made
- (d) should make

10. (a) improving (c) to improve	(b) be improved (d) have improved	Directions (Q.Nos. 24 and out of the four alternatives, ch	hoose the one which best
Directions (Q. Nos. 11-15)	In the questions given	expresses the meaning of the	given word.
below, there are four different is correctly spelt. Find the cor	words out of which one	24. Right (a) Correct (b) Marked	(c) Straight (d) Finished
11. (a) Efflorescence	(b) Eflorescence	25. Apprehended	
(c) Efflorrescence	(d) Efloreescence	(a) Understood (c) Feared	(b) Arrested (d) Questioned
12. (a) Liaission (c) Lieaison	(b) Liaison (d) Liaaison	26. Who got Nobel Prize for 'T	
13. (a) Entreepreneur	(b) Entrepreeneur	(a) Ernest Hemingway (c) Rabindra Nath Tagore	(b) Satyajeet Ray (d) Ruskin Bond
(c) Entrepreneur	(d) Entreppreneur	27. Michael Ferreira is related	• •
14. (a) Equanemity	(b) Equaninity	sports?	(I-) O-14
(c) Equamimity	(d) Equanimity	(a) Cricket (c) Hockey	(b) Golf (d) English Billiards
15. (a) Embarrassment	(b) Embarassment	, . ,	· · · -
(c) Embarrasment	(d) Embarasment	28. Which of the following is developed nuclear powered	
Dinections (O. N 16 00)		(a) INS Vikrant	(b) INS Trikhand
Directions (Q. Nos. 16-20) I the four alternatives choose		(c) INS Arihant	(d) INS Sindhurakshak
substituted for the given word		29. Thomas cup is associated w	rith
• .=		(a) Hockey	(b) Badminton
16. A group of three books, fill subject or characters.	ms etc, that have the same	(c) Kabaddi	(d) Table Tennis (Women)
(a) Trinity	(b) Trilogy	30. Sattriya dance originated in	n.
(c) Trio	(d) Tripod	(a) Assam	(b) Andhra Pradesh
17. A study of the human race.		(c) Rajasthan	(d) Gujarat
(a) Anthropology	(b) Archaeology	31. Which of the following is	home base of the aircraft
(c) Ethnology	(d) Etymology	carrier INS Vikramaditya?	(h) Cashin
18. A remedy for all diseases is		(a) Visakhapatnam (c) Karwar	(b) Cochin (d) Jamnagar
(a) Stoic	(b) Marvel	. ,	•
, (с) Рапасеа	(d) Recompense	32. Who is the defence secretar 1962?	ry during Indo-China war in
19. A place where treasures of	art, curios are preserved or	(a) Sanjay Mitra	(b) V.K. Krishna Menon
exhibited.	(b) Stable	(c) V.K. Singh	(d) Govind Narain
(a) Museum (c) Library	(d) Studio	33. The accounting year of Rese	erve Bank of India runs from
, ,	•	(a) April to March	(b) July to June
20. Associated with God or relig		(c) January to December	(d) August to July
(a) Humbly (c) Virtuous	(b) Holy (d) Godly	34. Agricultural commodities,	are graded with
(6) ¥#160005	(a) dodiy	(a) ISI	(b) Eco-products
Directions (Q.Nos. 21-23) In	n these questions choose	(c) AGMARK	(d) Green product
the opposite word in meaning	to the given word.	35. The book titled 'The India	n War of Independence' was
21. Hasten		written by	-
(a) Dash	(b) Dawdle	(a) Krishna Verma	(b) Madame Cama
(c) Hurry	(d) Scurry	(c) B G Tilak	(d) V D Savarkar
22. Spirited		36. Who won the Nobel Peace	Prize for 2016?
(a) Animated	(b) Excited	(a) Juan Manuel Santos	(b) Tawakkol Karman

(c) Al Gore

(a) Lord Mayo

(c) Lord Curzon

(d) Kailash Satyarthi

(b) Lord Ripon

(d) Lord Clive

37. Who is rightly called the 'Father of Local Self Government' in India?

(a) Animated

(c) Lively

23. Forthright (a) Blunt

(c) Candid

(b) Excited

(d) Dull

(b) Tricky

(d) Plainspoken

	(c). Khilji Dynasty	(d) Koravi Dynasty	(a) Rat (b) Dog								
39.	Which is the second nearest Sun? (a) Vega	star to the Earth after the (b) Sirius	(c) Mongoose (d) Lion Direction (Q.No. 53) Two statements are given								
	(c) Proxima Centauri	(d) Alpha Centauri	followed by two Conclusions I and II. You have to consider the statements to be true even if they seem to								
40.	Which is an extra-constitution	onal body?	be at variance from commonly known facts. You are to								
	(a) Language Commission (c) Election Commission	(b) Planning Commission (d) Finance Commission	decide which of the given conclusions, if any, follow from the given statements. Indicate your answer.								
41.	Which of the following state 2016-2017?	s won Vijay Hazare Trophy	53. Statements All animals are dogs. All dogs are birds.								
	(a) Tamil Nadu (c) Madhya Pradesh	(b) Bengal (d) Mumbai	Conclusions I. All animals are birds. II. All birds are animals.								
42.	Which is not an All India Se (a) Indian Administrative Service (b) Indian Police Service (c) Indian Foreign Service		(a) Only Conclusion I follows (b) Only Conclusion II follows (c) Both Conclusions I and II follow (d) Neither Conclusion I nor II follows								
	(d) Indian Forest Service		Directions (Q.Nos. 54 and 55) In each question								
43.	Hiven Tsang visited India d (a) Chandra Gupta! (c) Harshavardhana	uring the reign of (b) Chandra Gupta II (d) Rudradaman	below is given a statement followed by two Assumptions I and II. You have to consider the statement and the following assumptions and decide								
44.	The call of 'Back to the Veda	as' was given by	which of the assumptions is implicit in the statement.								
	(a) Swami Vivekananda(b) Swami Dayanand Saraswa	nti	Give answer (a) Only I is implicit (b) Only II is implicit								
	(c) Aurobindo Ghosh (d) Raja Ram Mohan Roy		(c) Neither I nor II is implicit (d) Both I and II are implicit								
45.	The commando unit of the I	ndian Air force is named	54. Statement Railway authority has started internet booking facility of long-distance trains and also								
	(a) Baaz (c) MARCOS	(b) Garvd (d) Ghatak	delivering the tickets at the doorstep through courier service at a little extra cost.								
46.	The monetary policy in Indi	a is formulated by	Assumptions								
	(a) Central Government(b) Industrial Financial Corpor	ation of India	 I. Many customers may now book their ticket through internet, resulting into less crowed at ticket 								
	(c) Reserve Bank of India (d) Industrial Development Ba	• .	booking offices. II. Most of the customers may still buy their railway tickets at the booking counters.								
47.	What is the capital of Uzbek (a) Dushanbe (b) Damascus		55. Statement Many people fell ill after consuming meal at a wedding reception and were rushed to the nearby Government and private hospitals.								
Dire	ctions (Q.Nos. 48-50)) In the following	Assumptions								
uest	ions, complete the series.	•	I. The relatives of the affected people may refuse to								
48.	Z, ?, T, Q, N (a) X (b) W	(c) V (d) T	take them to the Government hospitals. II. The nearby hospitals may be able to attend to all the affected people.								
4 9.	A, I, P, V, A, ?	(a) □ (d) G	Directions (Q.Nos. 56-58) Each of the following								
ξV	(a) F (b) D	(c) E (d) G	questions has four statements. Three are incorrect.								
av.	YEB, WFD, UHG, SKI, ? (a) QOL (b) POL	(c) QLO (d) LOQ	Choose the statement which is logically correct.								
51.	In a certain code FORGET i	, -	56. (a) All chances are fakes. No chance are genuine. Therefore, all fakes are genuine.								

38. Razia Sultan belonged to which of the following

would DOCTOR be written in that code?

(a) BPAUPS (b) BPAUMS (c) EMDRPP (d) EMDRPD

(b) Maurya Dynasty

dynasty?

(a) Slave Dynasty

52. If rat is called dog, dog is called mongoose, mongoose is called lion, lion is called snake and snake is called

(b) Some papers are white. All white are brown. Therefore,

all brown are white.

elephant, which is reared as a pet?

- (c) Some goats are lambs. All kids are lambs. Therefore, some goats are kids.
- (d) Some cuts are dabs. No dabs is pricks. Therefore, some dabs are cuts.
- 57. (a) No trees are decorations. Some trees are decorated. Therefore, no decorated are decorations.
 - (b) All men lie. Only liars are welcome. Therefore, all men are welcome.
 - (c) Some robots fly. All birds fly. Therefore, some birds are robots.
 - (d) Some tablets are round. Some tablets are oval. Therefore, all tablets are oval.
- 58. (a) All books are friends. All friends are dangerous. Therefore, all dangerous are books.
 - (b) All tables are ants. Some chairs are ants. Therefore, all ants are tables.
 - (c) No man is a monkey. John is a man. Therefore, John is not a monkey.
 - (d) All birds are parrots. Manish is a parrot. Therefore, Manish is a bird.

Directions (Q. Nos. 59-62) Choose the word which is least like the other words in the group.

(b) Scorpion

59. (a) Chemistry

(b) Physics

(c) Botany

(d) Geography

60. (a) Tomato

(b) Potato

(c) Cucumber (d) Peas

61. (a) Seal

(d) Cat

62. (a) Zinc

(c) Fish (b) Iron

(c) Aluminium (d) Mercury

following TheDirections (Q.Nos. 63-67) questions consist of two words that have a certain relationship to each other, followed by four alternatives. Select the best alternative that has same relationship as the original pair of words.

63. Behead : Guillotine :: ?

(a) Polish: Nail

(b) Perfect : Picture

(c) Thief: Prison

(d) Hang: Gallows

64. Graphite: Lubricant::?

(a) Movement : Friction

(b) Iron : Steel

(c) Wool: Cloth

(d) Diamond: Abrasive

65. Money: Transaction ::?

(a) Life: Death

(b) Water : Drink

(c) Ideas : Exchange

(d) Language: Conversation

66. Abrupt : Gradual :: ?

(a) Barren : Fertile

(b) Reverse : Backward

(c) Motion: Forward

(d) Agile: Calm

67. Jute : Sack :: ?

(a) Shoe: Sock

(b) Wool: Sweater

(c) Cotton: Fibre

(d) Mill: Cloth

Directions (Q. Nos. 68-70) There is certain relationship between two given words on one side of (::) and one word is given on another side of (: :) while another word is to be found from the given alternatives, having the same relation with this word as the given pair has. Select the best alternatives / relationship.

68. Iran : Majlis :: Finland : ?

(a) Eduskunta

(b) Helsinki

(c) Congress

(d) Vantaa

69. Oil : Seed :: Butter : ?

(a) Cow

(b) Curd

(c) Milk

(d) Amul

70. Horse : Foal :: Dog : ?

(a) Calf

(b) Bitch

(c) Jenny

(d) Whelp

71. Velocity of a man in steady water is 4.5 kmph. Velocity of the stream is 1.5 kmph. If he goes upstream and come back. What is the average velocity?

(a) 4 kmph

(b) 5 kmph

(c) 6 kmph (d) 7 kmph

72. Ratio of boys and girls in a school is 3:2. 20 % boys and 25% girls have scholarships. What is the total percentage of students who have scholarship?

(a) 21

(b) 22

(c) 23

(d) 24

73. A is thrice efficient than B. A takes 40 days less than B to complete a work. If they both work together, how many days it will take to finish the work?

(a) 10

(b) 25

(d) 20

74. 40% of a number, exceeds 25% of it by 45. What is the number?

(a) 150

(b) 320

(c) 250

(d) 300

75. There are 15 students whose average increases by 1.5 kg, when a member of 40 kg was replaced by another one. What is his weight?

(a) 62.5 kg

(b) 60 kg

(c) 61 kg

76. A train takes 18 sec to cross a man running at a speed of 6 km/sec in the same direction of the train. How much time it takes to cross a person runing at 9 km/s in the same direction of the train?

(a) 15 sec

(b) cannot be determined

(c) 18 sec

(d) 20 sec

77. $\frac{1}{5}$ th tank is full and if 22 litre fuel poured in then $\frac{3}{4}$ th tank is full. Find the capacity of tank?

(a) 30 litres

(b) 60 litres

(c) 40 litres (d) 20 litres

78. A person distributes his pens among four friends A, B, Cand D in the ratio $\frac{1}{3}:\frac{1}{4}:\frac{1}{5}:\frac{1}{6}$. What is the minimum number of pens the person should have?

(a) 60

(b) 120 °

(c) 180

(d) 240

79. Four horses are tethered at 4 corners of a square field of side 70 m so that they just cannot reach one another. The area left ungrazed by the horses is

(a) $1050 \,\mathrm{m}^2$

(b) $3850 \,\mathrm{m}^2$ (c) $950 \,\mathrm{m}^2$

(d) 1075 m²

- 80. The ratio between boys and girls in a school is 4:6 respectively. If the number of boys is increased by 200 the ratio becomes 5: 6 respectively. How many girls are there in the school?
 - (a) 1200

(b) 800

(c) 1000

- (d) Cannot be determined
- 81. A man whose bowling average is 12.4 takes 5 wickets for 26 runs and thereby decreases his average by 0.4. The number of wickets taken by him before his last match, is (a) 85 (b) 78 · (d) 64
- (c) 72
- 82. The length and breadth of a square are increased by 30% and 20% respectively. The area of the rectangle so formed exceeds the area of the square by
 - (a) 20%
- (b) 36%
- (c) 50%
- (d) 56%
- 83. The ratio of father's age to his son's age is 7:3. The product of their age is 756. The ratio of their ages after 6 yr will be
 - (a) 2:1
- (b) 5:2
- (c) 11:7
- (d) 13:9
- **84.** The simplified value of $\frac{112}{\sqrt{196}} \times \frac{\sqrt{576}}{12} \times \frac{\sqrt{256}}{8}$ is
 - (a) 12
- (b) 8
- (c) 16
- 85. A, B and C can do a piece of work in 20, 24 and 30 days, respectively. They undertook to do the piece of work for ₹ 5400. They begin the work together but B left 2 days before the completion of work and C left 5 days before the completion of work. The share of A from the assured money is
 - (a) ₹ 2700
- (b) ₹ 540
- (c) ₹ 1800
- (d) ₹ 600

Directions (Q. Nos. 86-89) In these tests you will find an question figure and four answer figures. You have to select one diagram from the answer figures which fits into the blank column in question figure in order to complete it.

86. Question Figure Answer Figures













87. Question Figure Answer Figures











88. Question Figure Answer Figures



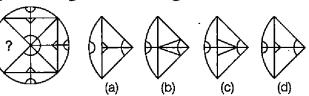




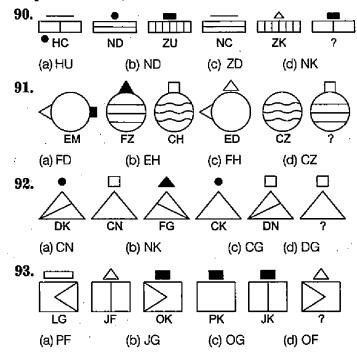




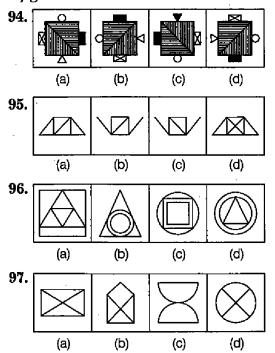
89. Question Figure Answer Figures



Directions (Q. Nos. 90-93) In these tests find which code matches the shape or pattern given at the end of each question.



Directions (Q. Nos. 94-97) In these tests, find the odd figure out.

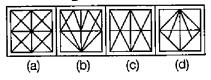


Directions (Q. Nos. 98-100) In these test figure (X) is hidden in the option figures. Find the correct option.

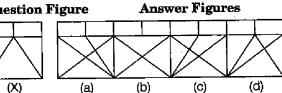
98. Question Figure



Answer Figures



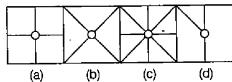
99. Question Figure



100. Question Figure

Answer Figures



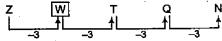


Answers

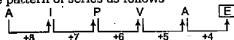
																	7.15	10.	
1.	(b)	2.	(b)	3.	(c)	4.	(c)	5.	(a) _	6.	(c)	7.	(d)	8.	(a)_	9.	<u>(</u> d)		(c)
11.	(a)	12.	(b)	13.	(c)	14.	(d)	15.	(a)	16.	(b)	17.	(a)	18.	(c)_	19.	(a)	20.	(b)_
21.	(p)	22.	(d)	23.	(b)	24.	(a)	25.	(a)	26.	(a)	27.	(d)	28.	(c)	29.	(b)	30.	(a)
31.	(c)	32.	(b)	33.	(a)	34.	(c)	35.	(d)	36.	(a)	37.	(a)	38.	(a)	39.	(c)	40.	(b)
41.	(a)	42.	(d)	43.	(c)	44.	(b)	45.	(b)	46.	(c)	47.	(c)	48.	(b)	49.	(c)	50.	(a)
51.	(b)	52.	(c)	53.	(a)	54.	(a)	55.	(b)	56.	(d)	57.	(b)	58.	(c)	59.	(d)_	60.	(b)
61.	(a)	62.	(d)	63.	(d)	64.	(d)	65.	(d)	66.	(a)	67.	(b)	68.	(a)	69.	(c)	70.	(d)
71.	(a)	72.	(b)	73.	(c)	74.	(d)	75.	(a)	76.	(b)	77.	(c)	78.	(á)	79.	(a)	80.	(a)
81.		82.	(d)	83.	(a)	84.	(d)	85.	(a)	86.	(b)	87.	(d)	88.	(b)	89.	(d)	90.	(a)
	(a)	.		93.	(d)	94.	(c)	95.	(d)	96.	(d)	97.	(c)	98.	(c)	99.	(d)	100.	(c)
91.	(c)	92.	(a)	53.	<u> (a)</u>	34.	(0)	33.	<u> </u>	<u> </u>	(u)		, (0)	1	1,9/				· · · · ·

Hints and Solutions

- 11. The correct spelling is 'Efflorescence'.
- 12. The correct spelling is 'Liaison'.
- 35. 'The Indian War of Independence' was written by VD Savarkar. He was an extrimist leader.
- 39. The Sun is the nearest star to the Earth. Proxima Centauri is the second nearest star to the Earth after the Sun.
- 40. Planning Commission is an extra-constitutional body, which was formed with a parliamentary ordinance in
- 43. Chinese pilgrim, Hieun Tsang (Prince of Travelers) visited India during the reign of Harshavardhana.
- 44. The call of 'Back to Vedas' was given by Swami Dayanand Saraswati. He founded the Arya Samaj in 1875.
- 48. The pattern of series are as follows.



49. The pattern of series as follows



50. The pattern of series are as follows

$$Y \xrightarrow{-2} W \xrightarrow{-2} U \xrightarrow{-2} S \xrightarrow{-2} Q$$

$$E \xrightarrow{+1} F \xrightarrow{+2} H \xrightarrow{+3} K \xrightarrow{+4} Q$$

$$B \xrightarrow{+2} D \xrightarrow{+3} G \xrightarrow{+2} I \xrightarrow{+3} L$$

- 52. We know that dog is reared as a pet but in question dog is called as mongoose. Hence, mongoose is reared as a pet.
- 53. According to the statements, venn diagram is



Conclusions

I. 🗸

II. X

Hence, only Conclusion I follows from the statements.

54. Assumption I is implicit because it serves the purpose of starting internet booking facility.

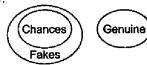
Assumption II is not implicit because it is irrelevant.

55. Assumption I is not implicit because it is vague. Assumption II is implicit because it follows from the

given statement and positively assumed (Positive thinking).

56.

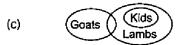
5**6.** (a)



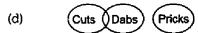
So, we cannot say all takes are genuine.



So, we cannot say all brown are white.



So, we cannot say some goats are kids.



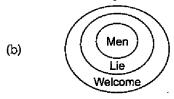
So that some dabs are cuts.

57. (a)

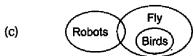




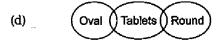
So, we cannot say that no decorated are decorations.



So, all men are welcome



So, we cannot say that some birds are robots.

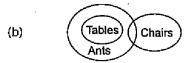


So, we cannot say that all tablets are oval.

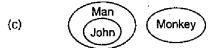
58.



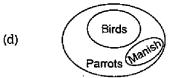
So, we cannot say that all dangerous are books.



So, we cannot say that all ants are tables.



So, John is not a monkey.



So, we cannot say that Manish is a bird.

- 61. All except Seal are creatures related to signs of zodiac.
- 62. Mercury is the only liquid metal in the group.
- 71. According to the question,

$$\therefore \text{ Average velocity} = \frac{\text{Total distance}}{\text{Total time}}$$

$$= \frac{D+D}{\frac{D}{45+15} + \frac{D}{45-15}} = \frac{2D}{\frac{D}{6} + \frac{D}{3}} = \frac{2D \times 6}{D+2D} = \frac{12D}{3D}$$

$$= 4 \text{ kmph}$$

72. Required percentage =
$$\frac{\frac{3x \times 20}{100} + \frac{2x \times 25}{100}}{5x} \times 100$$
$$= \frac{\frac{3}{5} + \frac{1}{2}}{5} \times 100 + = \frac{6 + 5}{50} \times 100 = 22\%$$

73. Let A can do the work in x days, then B can do the same work in 3x days.

According to the question,

$$\Rightarrow 3x - x = 40 \Rightarrow 2x = 40 \Rightarrow x = 20$$

$$\therefore \text{ One day work of } A \text{ and } B = \frac{1}{x} + \frac{1}{3x} = \frac{1}{20} + \frac{1}{60}$$

$$= \frac{3+1}{60} = \frac{4}{60} = \frac{1}{15}$$

Hence, they will complete the work in 15 days.

74. According to the question,

$$\Rightarrow x \times \frac{40}{100} = x \times \frac{25}{100} + 45$$

$$\Rightarrow x \times \frac{40}{100} - \frac{x \times 25}{100} = 45 \Rightarrow \frac{15x}{100} = 45$$

$$\therefore x = 3 \times 100 = 300$$

75. Let the average of 15 students be 'x'.

According to the question,

⇒
$$15x - 40 + y = 15 (x + 15)$$

⇒ $15x - 40 + y = 15x + 225$ ⇒ $y = 40 + 225$
∴ $y = 625 \text{ kg}$

76. Let the speed and length of the train be 'v' km/s and 'd' km/s respectively.

$$v - 6 = \frac{d}{18}$$
 ... (i)

$$v - 9 = \frac{d}{t} \qquad \dots \text{ (ii)}$$

Hence, time cannot be determined.

77. Let the capacity of tank be 'x'.

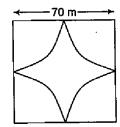
According to the question,

$$\frac{x}{5} + 22 = \frac{3x}{4} \implies \frac{3x}{4} - \frac{x}{5} = 22 \implies \frac{15x - 4x}{20} = 22$$

$$11x = 22 \times 20$$

$$x = 40$$
 liters

- **78.** LCM of 3, 4, 5 and 6 = 60
 - .. Required number of pens = 60
- **79.** Area of square = $(\text{Side})^2 = (70)^2 = 4900 \text{ m}^2$



Grazed area by horses =
$$\frac{4 \times \pi r^2}{4} = \frac{22}{7} \times (35)^2$$

= $\frac{22}{7} \times 35 \times 35 = 3850 \text{ m}^2$

Hence, ungrazed area by the horses

$$= (4900 - 3800) \,\mathrm{m}^2 = 1050 \,\mathrm{m}^2$$

80. Let the number of boys and girls be 4x and 6x respectively.

According to the question,

$$\frac{4x + 200}{6x} = \frac{5}{6}$$

$$5x = 4x + 200 \Rightarrow x = 200$$

Therefore, number of girls = $6x = 6 \times 200 = 1200$

Short Trick

Ratio

- 1. Ratio (4 : 6) increasing of boys 200 and ratio increase = equal to.1
- 11. Ratio (5:6)

$$1 = 200$$

Hence, 6 = 1200

81. Let the number of wickets taken before the last match
= x

Then,
$$\frac{(12.4x + 26)}{(x+5)} = 12 \Rightarrow 12.4x + 26 = 12x + 60$$

$$\Rightarrow$$
 0.4x = 34 \Rightarrow x = $\frac{34}{0.4}$ = $\frac{340}{4}$ = 85

Required wickets = 85

82. Let length = x and breadth = y m

Area =
$$(xy)$$
m²

New length =
$$\left(\frac{130}{100} x\right) = \frac{13}{10} x \text{ m}$$

New breadth =
$$\left(\frac{120}{100}y\right) = \frac{6}{5}y$$
 m

New area =
$$\left(\frac{13x}{10} \times \frac{6y}{5}\right) = \left(\frac{39xy}{25}\right) \text{m}^2$$

$$Excess = \left(\frac{39xy}{25} - xy\right) = \frac{14xy}{25} \,\mathrm{m}^2$$

Excess percentage =
$$\left(\frac{14xy}{25} \times \frac{1}{xy} \times 100\right)\% = 56\%$$

83. Let the common ratio = x

The father's age = 7x, son's age = 3x

Now, from given conditions

$$\Rightarrow 7x \times 3x = 756 \Rightarrow 21x^2 = 756$$

$$\Rightarrow x^2 = \frac{756}{21} = 36 \Rightarrow x = \sqrt{36} = 6$$

 \therefore Father's age = $7 \times 6 = 42 \text{ yr}$

Son's age $3 \times 6 = 18$ yr

After six year's

Father's age =
$$42 + 6 = 48 \text{ yr}$$

Son's age =
$$18 + 6 = 24 \text{ yr}$$

$$\therefore \text{Required ratio} = \frac{48}{24} = \frac{2}{1} = 2:1$$

84.
$$\frac{112}{\sqrt{196}} \times \frac{\sqrt{576}}{12} \times \frac{\sqrt{256}}{8} = \frac{112}{14} \times \frac{24}{12} \times \frac{16}{8}$$

$$= 8 \times 2 \times 2 = 32$$

85. Let the number of days to complete the work be x, then

$$\frac{x}{20} + \frac{x-2}{24} + \frac{x-5}{30} = 1$$

$$6x + 5(x-2) + 4(x-5) = 1$$

$$6x + 5x + 4x = 120 + 10 + 20 \Rightarrow 15x = 150$$

$$x = 1$$

$$\therefore$$
 Work done by $A = \frac{10}{20} = \frac{1}{2}$

- ∴Share of A from the assured money = $\frac{1}{2} \times 5400$ = ₹2700
- **97.** In all others there are four chambers but in option (c there are only two chambers.
- 100.



Answer figure (c) is hidden/embedded in the question figure.