

JPMAT 2022

Sample Paper

JIPMAT 2022 (Sample Paper)

Quantitative Aptitude

Questions

1. Find the unit digit of: $\frac{16^{16}}{4^5} \times \frac{20^{25}}{5^{20}} \times \frac{15^{16}}{3^7}$

- A. 1
- B. 5
- C. 2
- D. 0

2. The HCF of two numbers is 31 and their LCM is 29450. If one number is 155 then find value of other number.

- A. 5885
- B. 5890
- C. 5800
- D. 5895

3. **Direction:** What will come in the place of the question mark (?) in the following questions?

$$\sqrt{4356} \div 2.2 = ? \times 0.25$$

- A. 130
- B. 85
- C. 75
- D. 90
- E. 120

4. A train starts full of passengers. At the first station, it drops one third of these and takes in 96 more. At the next, it drops one - half of the new total and takes in 12 more. On reaching the net station, there are found to be 248 left. With how many passengers did the train start?

- A. 564
- B. 568
- C. 579
- D. 600

5. Find the sum of the n terms of the series

$$\frac{1}{1+\sqrt{3}} + \frac{1}{\sqrt{3}+\sqrt{5}} + \frac{1}{\sqrt{5}+\sqrt{7}} + \dots :$$

- A. $(\sqrt{2n+1} - 1)$
- B. $\frac{1}{2}(\sqrt{2n+1} - 1)$
- C. $(\sqrt{2n+1})$
- D. $\frac{1}{2}(\sqrt{2n+1})$

6. The captain of a cricket team of 11 players is 25 years old and the wicketkeeper is 5 years older. If the

ages of these two are excluded, then average age of the remaining players is 2 years less than the average age of the whole team. What is the average age of the team?

- A. 15 years
- B. 18.5 years
- C. 16.5 years
- D. 12 years
- E. None of these

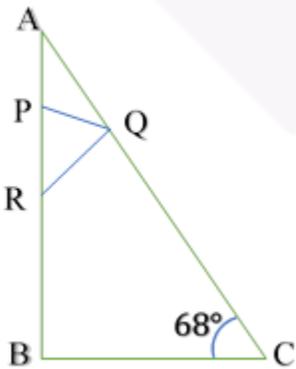
7. A number consists of two digits. The sum of the digits is 9. If 45 is subtracted from the number. Its digits are interchanged. What is the number?
- A. 63
B. 72
C. 81
D. 90
8. $\frac{4}{7}$ of a pole is in the mud. When $\frac{1}{3}$ of it is pulled out, an 8 metres long piece of the pole still remains in the mud. What is the total length of the pole?
- A. 21 meters
B. 25 meters
C. 30 meters
D. 12 meters
9. If $2^x = 7^y = 14^z$, then find the value of z in terms of x and y.
- A. $x + y/x - y$
B. $xy/x + y$
C. $x + y + xy$
D. $xy - (x + y)$
10. A candidate who gets 20% marks in an examination fails by 30 marks but another candidate who gets 32% gets 42 marks more than the pass marks. Then, the percentage of pass marks is
- A. 52%
B. 50%
C. 33%
D. 25%
11. A dishonest shopkeeper sells sugar at 10% loss but gives only 800 gms instead of 1 kg. Find the net profit/loss.
- A. Loss 12.5%
B. Profit 12.5%
C. Loss 14%
D. Profit 14%
12. A person has divided two different amount among his 4 sons R,S,T and U. the first amount is divided in the ratio of 4:3:2:1 and second amount is divide in ratio of 5:6:7:8. If the first amount is half of the second amount. Then who got the maximum part of total amount?
- A. U
B. T
C. S
D. R
E. Can't be determined

- C. 100
E. 150
- D. 125

19. In a stream running at 2 kmph, a motorboat goes 6 km upstream and back again to the starting point in 33 minutes. Find the speed of the motorboat in still water.
- A. 22 km/hr
C. 25 km/hr
- B. 20 km/hr
D. 18 km/hr
20. In a mixture of 240 lt. water is 20% and rest is Milk. What quantity of mixture should be taken out and replaced with water so that water becomes 40%?
- A. 60 liters
C. 45 liters
- B. 55 liters
D. 50 liters
21. A man has Rs. 10,000 for the investment. He invests Rs. 4000 at simple interest rate of 5% per annum and Rs. 3500 at 4% per annum. At what rate should he invest the rest amount so that his annual income may become Rs. 500.
- A. 6%
C. 6.4%
- B. 6%
D. 6.3%
22. Suman borrowed a sum of Rs. 45000 on simple interest. Madhu also borrowed the same amount on compound interest. At the end of two years, both of them repaid their borrowed amounts. However, Madhu had to pay Rs. 648 more than Suman. Find the rate of interest:
- A. 12%
C. 14%
- B. 10%
D. 16%
23. The lengths of the two diagonals of a rhombus are 6 cm and 8 cm. Find the length of its perimeter (in cm).
- A. 20
C. 40
- B. 10
D. 30
24. The height of a conical tent is 14 m and its floor area is $346.5 m^2$. How much canvas, 1.1m wide, will be required for it ?
- A. 490 m
C. 665 m
- B. 525 m
D. 860 m
25. A footpath is built around the boundary of a circular pond. A man walks on this footpath once. If his one step is 66 cm long and he walks exactly 400 steps to go around the pond, then find the diameter of this pond.
- A. 4800 cm
- B. 4400 cm

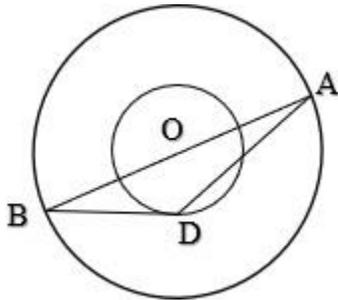
C. 8400 cm
D. 8800 cm

26. In a linear race, A beats B by 20 m and C by 34 m. Find the length of the race if in the same race, B beats C by 15 m.
A. 200 m
B. 300 m
C. 400 m
D. 500 m
27. At what angle, are the hands of a clock inclined at 32 minutes past 4?
A. 54°
B. 56°
C. 55°
D. 65°
28. Shopkeeper sold a watch for Rs. 800 after giving 20% discount and made a profit of 60%. What will be the profit percentage if he sells the watch without discount?
A. 25%
B. 50%
C. 100%
D. 125%
E. 150%
29. In the given figure ABC is right angled at B and $\angle C = 68^\circ$. If $AP = PQ = QR$, then find the value of $\angle QRB$:



A. 144°
B. 122°
C. 156°
D. 136°

30. The radii of two concentric circles are 13 cm and 8 cm. AB is a diameter of bigger circle. BD is tangent to the smaller circle touching it at D. Find the length AD.



- A. $\sqrt{105}$ cm
B. 19 cm
C. 361 cm
D. 91 cm

31. If $\cos x + \cos y = 2$, the value of $\sin x + \sin y$ is
A. 0
B. 1
C. 2
D. -1
32. If m times the m^{th} term of an AP is n times the n^{th} term, then $(m + n)^{\text{th}}$ term of AP is
A. 0
B. 1
C. $m + n$
D. $m - n$
33. If the points $(k, 2k)$, $(3k, 3k)$ and $(3, 1)$ are collinear, then $k =$
A. $1/3$
B. $-1/3$
C. $2/3$
D. $-2/3$

Data Interpretation and Logical Reasoning

34. In the question below is given a statement followed by some courses of action. You have to assume everything in the statement to be true and on the basis of the information given in the statement. Decide which of the suggested courses of action logically follow(s) for pursuing.

Statement: "OTT platforms have become important for the entertainment of peoples".

Assumptions:

I. OTT platforms are the only medium of entertainment.

II. People enjoy the contents of these platforms.

- A. If only argument I is implicit.
B. If only argument II is implicit.
C. If neither I nor II is implicit.
D. If both I and II are implicit.

35. In the following question a statement is given, followed by two inference I and II. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given inference, if any, can be made.

Statement: Sensex breached 50000 mark for the first time.

Inference:

I. Indian economy has fully recovered from the setbacks of COVID19

II. Retail investors are the main reason for this bull run.

A. If only inference I.

B. If only inference II.

C. If neither I nor II.

D. If both I and II.

36. **Direction:** In each question below is given a statement followed by two assumptions numbered I and II. An assumption is something supposed or taken for granted. You have to consider the following assumption and decide which of the assumption is implicit in the statement.

Statement: In town H, people prefer to buy Air conditioner X instead of Air conditioner Y because Air conditioner X has Japanese technology which is very advanced.

Assumptions:

I. Had Japanese technology been present in Air conditioner Y also, it's sales would have doubled the sale of Air conditioner X.

II. Air conditioner's manufactured by using Japanese technology are perceived to be better than other Air conditioners.

A. If only I implicit.

B. If neither I nor II implicit.

C. If only II implicit.

D. If both I and II are implicit.

37. In each question below is given a statement followed by two assumptions numbered I and II. An assumption is something supposed or taken for granted. You have to consider the following assumption and decide which of the assumption is implicit in the statement.

Statement:

'Restricted area keep out - avoid the risk of getting infected with the XYZ disease' - written outside the ward no. 145 of a hospital'.

Assumptions:

I. Patients in ward no. 145 suffer from disease 'XYZ'.

II. The disease 'XYZ' is contagious.

- A. If only I implicit.
- B. If only II implicit.
- C. If either I or II is implicit.
- D. If both I and II are implicit.

38. In each question below is given a statement followed by two assumptions numbered I and II. An assumption is something supposed or taken for granted. You have to consider the following assumption and decide which of the assumption is implicit in the statement.

Statement: For underwater diving, people uses company Z's diving helmets as these are light weight helmets.

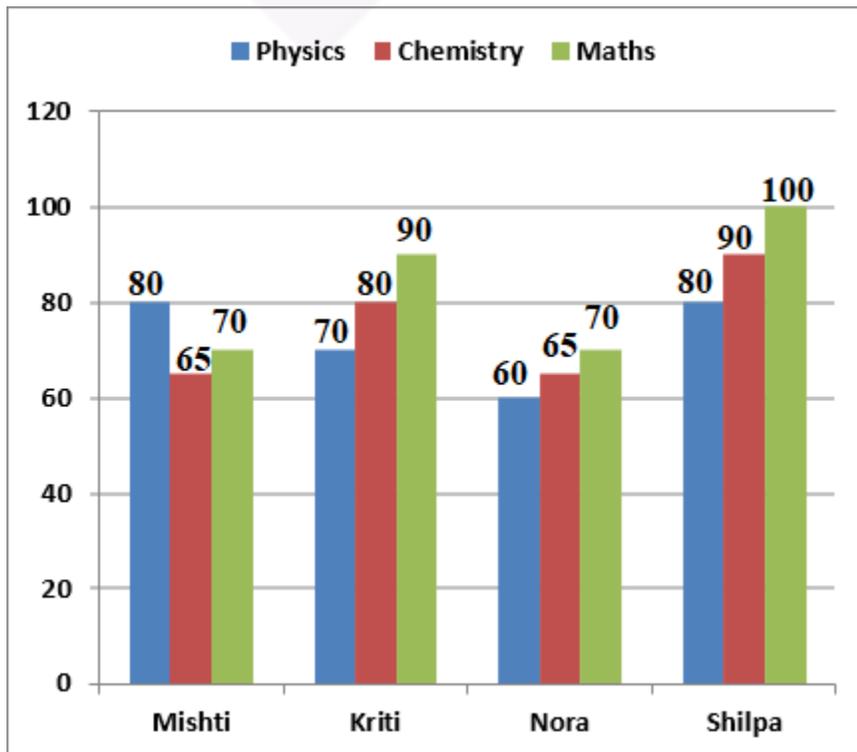
Assumptions:

- I. Only company Z's diving helmets are function well underwater.
- II. The lightweight helmets are more comfortable than the heavy ones.

- A. If only I implicit.
- B. If only II implicit.
- C. If neither I nor II implicit.
- D. If both I and II are implicit.

39. **Direction:** Read the given information carefully and answer the questions that follow.

The bar graph below represents the marks scored by 4 girls in a class in Physics, Chemistry and Maths test out of 100. All the information given are absolute and integral multiple of 5.



Who scored the highest percentage of marks in the test?

- A. Mishti
- B. Kriti
- C. Nora
- D. Shilpa
- E. Both A and B

40. What is the average marks of the four girls?

- A. 230
- B. 220
- C. 210
- D. 260
- E. None of these

41. Marks obtained by Kriti in Maths is how much percent the marks obtained by Mishti in Physics?

- A. 110%
- B. 112.5%
- C. 124.2%
- D. 120%
- E. 112%

42. If the passing marks in Chemistry is 70%, then how many of them failed in Chemistry?

- A. 1
- B. 2
- C. 3
- D. 0
- E. Cannot be determined

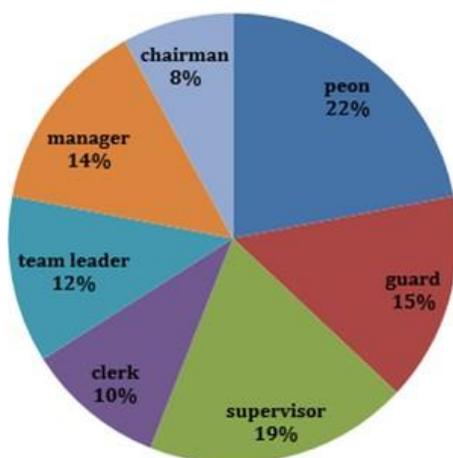
43. Find the ratio of percentage of marks obtained by Shilpa and Kriti in all the three subjects.

- A. 3 : 4
- B. 3 : 2
- C. 9 : 8
- D. 9 : 4
- E. 3 : 8

44. **Direction:** Study the information in the following pie-charts to answer these questions:

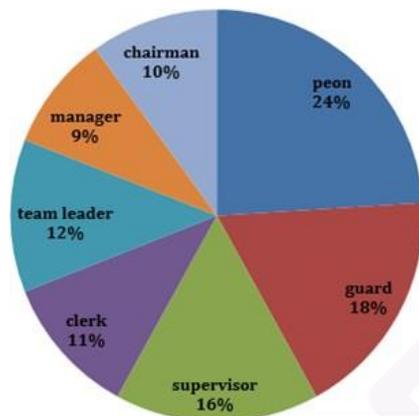
Details Of 1500 Employees Working in an Organization at Various Posts are shown here.

BREAKUP OF 1500 EMPLOYEES ON VARIOUS POST



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BREAKUP OF 800 MALE EMPLOYEES ON VARIOUS POST



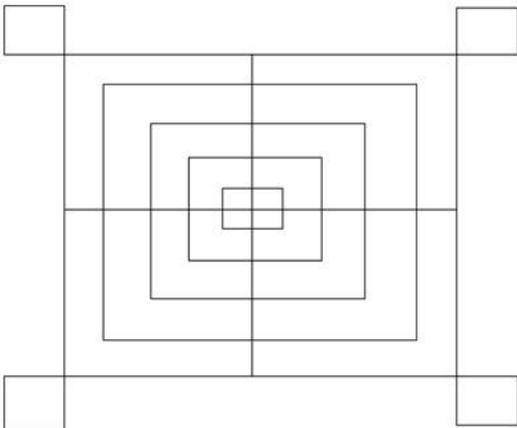
How many females are working in Post of Guard, Post of Supervisor and post of Clerk?

- A. 380
- B. 300
- C. 650
- D. 480
- E. None of these

45. What is the ratio of male to female employees working in Post of TEAM LEADER and Post of CHAIRMAN together?
- A. 34 : 31
 - B. 44 : 37
 - C. 44 : 31
 - D. 37 : 43
 - E. None of these
46. What is the average number of female employees working in Posts of SUPERVISOR and CLERK together?
- A. 109.5
 - B. 110.5
 - C. 115.5
 - D. 112.5
 - E. 119.5
47. The number of male employees working in Post of Clerk and female employees working in post of TEAM LEADER together is what per cent of the total number of employees in these posts?(rounded off to the nearest integer)
- A. 55
 - B. 33
 - C. 24
 - D. 45
 - E. 52
48. The number of female employees in post of Manager and Chairman is approximately what percent less or more than the number of male employees in post of Clerk and Team Leader?
- A. 3% (more)
 - B. 3%(less)

- C. 5%(more)
- E. 6%(more)
- D. 7% (less)

49. Four letter-pairs have been given, out of which three are alike in some manner and one is different. Select the odd one.
- A. B-F
 - B. Y-C
 - C. Z-F
 - D. M-Q
50. There are two couples in a family. Komali has two children. Madhurima is the wife of Omprakash, who is the brother of Mani. Pinki is the daughter of Komali. Urmila is the sister of Sanju, who is the son of Omprakash. Tarun is the son of Mani, who is a male. How is Madhurima is related to Komali?
- A. Aunt
 - B. Mother
 - C. Sister
 - D. Sister-in-law
51. Peter is the brother of Mary, who is the sister of John. If Jessica is married to Donald's only son, who is the father of John, then how is Jessica related to the father of Mary?
- A. Daughter-in-law
 - B. Wife
 - C. Daughter
 - D. Mother
52. How will you write 2.47 hours in hours, minutes and seconds?
- A. 2 hours, 28 minutes, 12 seconds
 - B. 2 hours, 40 minutes, 47 seconds
 - C. 2 hours, 47 minutes
 - D. 2 hours, 40 minutes, 7 seconds
53. How many squares are there in the following figure?



- A. 25
 - B. 20
 - C. 29
 - D. 24
54. **Direction:** Study the following information carefully and answer the given questions.

Point B is 5m to the south of point X. Point X is 6m to the west of point V. Point V is 11m to the north of

point G. Point C is 8m to the east of G. Point C is 8 m to the west of point Q. Point E is 14m to the north of point Q. Point T is 10m to the north of point C . Point Z is 13m to the west of point E . Point L is 10 m to the south of point Z. Point S is 9m to the south of point T.

In which direction point T is situated with respect to point V?

- A. East
- B. West
- C. South-east
- D. South-west
- E. None of the above

55. What is the shortest distance between L and E?
- A. $\sqrt{269}$
 - B. $\sqrt{210}$
 - C. $\sqrt{196}$
 - D. $\sqrt{169}$
 - E. None of the above
56. In a certain code language, AMFMAFAA is written as FMAFAAAM. Which of the given options will be the code for DODADODA in that code language?
- A. ADODADOD
 - B. AODADODD
 - C. DADODADO
 - D. DODODAAD
57. Faiza collected more mugs than Suraiya but less than Saifina. Roohi collected more mugs than Razia but less than Heena. Saifina collected less mugs than Razia. Who obtained the most mugs?
- A. Roohi
 - B. Heena
 - C. Saifina
 - D. Razia
58. **Direction:** Study the following information carefully and answer the questions given below:

Seven people A, B, C, D, E, F and G belong to different cities i.e. Pune, Hyderabad, Jaipur, Ajmer, Dehradun, Agra and Bareilly. They all like different food items i.e. Jalebi, Dhokla, Pastry, Pizza, Burger, Sandwich and Noodles. All the information is not necessarily in the same order.

B likes Pastry but does not belong to Agra. E belongs to Jaipur. C neither likes Jalebi nor Pizza. G belongs to Dehradun. D likes Burger. The one who belongs to Agra likes Pizza. F does not like Pizza. The one who belongs to Ajmer likes Jalebi. The one who belongs to Hyderabad likes Dhokla. D does not belong to Bareilly. G does not like Sandwich.

Who amongst the following likes Noodles?

- A. E
- B. G
- C. B
- D. C

E. None of these

59. Who amongst the following belongs to Pune?

A. G

B. B

C. F

D. D

E. None of these

60. Which amongst the following pair is not correct?

A. D - Dehradun - Burger

B. G - Dehradun - Noodles

C. B - Bareilly - Pastry

D. All are correct

E. None is correct

61. **Directions:** Study the following data carefully and answer the questions accordingly.

X % 9 3 H 6 I # 7 L \$ M 2 & C N K © 4 5 E 8 @ Z 3 5 8 ! A K 8 9

If all the digits are deleted from the given series then which of the following will be seventh to the left of the fifth element from the right end?

A. L

B. \$

C. &

D. M

E. None of these

62. **Directions:** Study the following data carefully and answer the questions accordingly.

X % 9 3 H 6 I # 7 L \$ M 2 & C N K © 4 5 E 8 @ Z 3 5 8 ! A K 8 9 How many such symbols are there in the given series each of which is immediately preceded by a consonant but not immediately followed by a consonant?

A. Five

B. One

C. Two

D. Four

E. None of these

63. Select the number that can replace the question mark (?) in the following series.

117, 98, 80, ?, 47, 32

A. 75

B. 63

C. 55

D. 58

64. Select the option which is related to third term in the same way as the second term is related to the first term.

Focus : Distract : : Precise : ?

A. Careless

B. Specific

C. Insufficient

D. Strict

65. **Four words have been given, out of which three are alike in some manner and one is different. Select the odd one.**

A. Teacher

B. Principal

C. Engineer

D. Doctor

66. Select the option that is related to the third term in the same way as the second term is related to the first term.

Human body : Medicines : : Plants : ?

A. Seeds

B. Irrigation

C. Fertilizers

D. Pesticides

Verbal Ability & Reading Comprehension

67. Read the passage carefully and select the best answer to each question out of the four alternatives.
- Pablo Picasso showed his truly exceptional talent from a very young age. His first word was lapis (Spanish for pencil) and he learnt to draw before he could talk. He was the only son in the family and very good-looking, so he was thoroughly spoilt. He hated school and often refused to go unless his doting parents allowed him to take one of his father's pet pigeons with him.
- Apart from pigeons, his great love was art and when in 1891 his father, who was an amateur artist, got a job as a drawing teacher at a college, Pablo went with him to the college. He often watched his father paint and sometimes was allowed to help. One evening his father was painting a picture of their pigeons when he had to leave the room. He returned to find that Pablo had completed the picture, and it was so amazingly beautiful and life like that he gave his son his own palette and brushes and never painted again. Pablo was just 13.

Qs 67 As a boy Pablo Picasso was

- A. ordinary looking but talented
- B. handsome and talented
- C. handsome and studious
- D. handsome and hard-working

68. **Direction:** In the following questions, you have several brief passages with some questions following each passage. Read the passages carefully and choose the best answer to each question out of the four alternatives. Passage

By human obligation I mean the ability to behave in a reasonable way, to observe restraint so that restraints do not have to be imposed, to be able to think clearly and objectively so that false doctrines cannot gain ground, I believe that it also means the ability to see through nonsense, political, economic, scientific and so on, and the feeling that it is a duty to resist it. If one does not observe restraint

- A. people around one will grow hostile
- B. one's friends will ignore one
- C. one's life will be miserable
- D. people will see to it that one behaves responsibly

69. **Select the most appropriate option to fill in the blank.**

She isn't just _____ of spiders, she is utterly terrified of them.

- A. afraid
- B. confident
- C. happy
- D. delighted

70. **Select the most appropriate option to fill in the blank.**

If it had been a little warmer, we _____ gone for a swim.

- A. Will have
- B. Can have
- C. Would have
- D. May have be

C. sagey about

D. her past life

84. **Select the most appropriate antonym of the given word.** MULTIFARIOUS

A. multifaceted

B. simplified

C. extreme

D. impenetrable

85. **Select the most appropriate synonym of the given word.** QUOTIDIAN

A. extraordinary

B. garden-variety

C. obdurate

D. dejected

86. Select the most appropriate **antonym** of the given word.

PRECLUDE

A. assist

B. deter

C. froward

D. fervent

87. **Select the most appropriate synonym of the given word.**

TYRANNY

A. misfit

B. power

C. madness

D. absolutism

88. **Direction:** Select the most appropriate meaning of the given idiom. To cross the Rubicon

A. To cross a road

B. To participate in a competition

C. To meet new people

D. To take a decisive step

89. **Direction:** Select the most appropriate meaning of the given idiom. Cry for the moon

A. ask for more money

B. ask for what is impossible

C. ask for happiness

D. a lot of distance

90. **Direction:** Select the most appropriate meaning of the given idiom. Take as gospel truth

A. something that is extensible

B. drinking alcohol or similar beverage

C. playing games

D. to accept or consider something without hesitation

91. **Choose the most appropriate option to change the voice (active/passive) form of the given sentence.**

The Judge delivered the sentence at the courtroom yesterday.

A. The sentence been delivered yesterday by the judge.

B. The sentence was delivered by the judge at the courtroom yesterday.

C. The sentence was being delivered at the courtroom yesterday by the judge.

D. Yesterday the sentence had been delivered at the courtroom by the judge.

92. Choose the most appropriate option to change the voice (active/passive) form of the given sentence.

Shut all the doors and windows in the night.

C.

A. Let all the doors and windows be shut in the night.

D. All the doors and windows may be shut in the night.

B. Let all the doors and windows remain shut in the night.

D. All the doors and windows be shutted in the night.

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93. **Choose the most appropriate option to change the voice (active/passive) form of the given sentence.** We shall welcome our new guests.
- A. Our new guests should be welcomed by us. B. Our new guests are to be welcomed by us.
C. Our new guests would be welcomed by us. D. Our new guests will be welcomed by us.
94. **Choose the most appropriate option to change the voice (active/passive) form of the given sentence.**
- Have you experienced this before?
- A. Have this been experienced before by you? B. Had this been experienced before by you?
C. Has this been experienced before by you? D. Have you had experience this before?
95. **Choose the most appropriate option to change the narration (direct/indirect) of the given sentence.** The workers said, "Let the management do something."
- A. The workers requested the management to do something. B. The workers said that the management should do something.
C. The workers told the management should be doing something. D. The workers asked the management to do something.
96. **Choose the most appropriate option to change the narration (direct/indirect) of the given sentence.** The principal said, "Let every one come in time".
- A. The principal mentions that we should come in time. B. The principal said that every one will come in time.
C. The principal requested every one to be on time. D. The principal ordered that every one should come in time.

97. In the following question, select the related word from the given alternatives.

Bank : Money :: Transport : ?

- A. Goods
- B. Road
- C. Traffic
- D. Speed

98. Select the option that is related to the third term in the same way as the second term is related to the first term.

Circle : Circumference :: Square : ?

- A. Volume
- B. Area
- C. Diagonal
- D. Perimeter

99. Select the incorrectly spelt word.

- A. dinosaurs
- B. abundant
- C. herbivoures
- D. hemisphere

100. Select the correctly spelt word.

- A. enterprese
- B. entarprise
- C. enterprise
- D. entarprese

Solutions

1. D

Sol. $\frac{(4^2)^{16}}{4^5} \times \frac{(4 \times 5)^{25}}{5^{20}} \times \frac{(3 \times 5)^{16}}{3^7}$

$$\frac{4^{32}}{4^5} \times (4^{25} \times 5^5) \times (3^9 \times 5^{16})$$

Unit digit = 0, because (5 × even No. = 0 unit digit)

2. B

Sol. Let the two number are x and y.

$$\text{LCM}(x, y) = 29450$$

$$\text{HCF}(x, y) = 31$$

$$x = 155$$

$$\text{LCM} * \text{HCF} = \text{Product of numbers}$$

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$$\therefore 29450 \times 31 = 155 \times y$$

$$y = 5890$$

3. D

Sol. $\sqrt{4356} \div 2.2 = ? \times 0.25$

$$\Rightarrow 66 \times \frac{1}{2.2} = ? \times 0.25$$

$$\Rightarrow 66 \times \frac{10}{22} = ? \times 0.25$$

$$\Rightarrow 30 = ? \times 0.25$$

$$\Rightarrow ? = \frac{30 \times 100}{25} = 120$$

4. A

Sol. Solution: Let the passenger start with x passengers,

After dropping one - third and taking in 96 passengers, the train has left

$$\Rightarrow X - x/3 + 96 = 2x + 288 / 3 \text{ passengers}$$

\Rightarrow Similarly, the second station, the number of passengers left

$$\Rightarrow 2x + 288 / 6 + 12$$

\Rightarrow According to the question,

$$\Rightarrow (2x + 288)/6 + 12 = 248$$

$$\Rightarrow 2x + 288 = 1416$$

$$\Rightarrow X = 564$$

5. B

Sol. Sum of n terms of the series

$$\begin{aligned} S_n &= \frac{1}{1+\sqrt{3}} + \frac{1}{\sqrt{3}+\sqrt{5}} + \frac{1}{\sqrt{5}+\sqrt{7}} + \dots + \frac{1}{\sqrt{2n-1}+\sqrt{2n+1}} \\ &= \frac{1}{2} \left[(\sqrt{3}-1) + (\sqrt{5}-\sqrt{3}) + (\sqrt{7}-\sqrt{5}) + \dots + (\sqrt{2n+1}-\sqrt{2n-1}) \right] \\ &= \frac{1}{2} (\sqrt{2n+1}-1) \end{aligned}$$

6. B

Sol. Let the average age of the whole team be A years.

$$\text{So, } 11A - (25+30) = 9(A-2)$$

$$11A - 55 = 9A - 18$$

$$2A = 37$$

$$A = 18.5 \text{ years}$$

Option B. is correct.

7. B

Sol. Let unit place digit is y and ten's place digit is x

Hence the number becomes '10x + y' and the reverse number will be '10y+x'

$$x + y = 9 \dots (i)$$

$$10x + y - 10y - x = 45$$

$$x - y = 5 \dots (ii)$$

Adding (i) and (ii)

$$x = 7$$

Subtracting (i) and (ii)

$$y = 2$$

Therefore the number is 72.

8. A

Sol. Let the total length of the pole be x .

Given, the total length of pole which is still in the mud = 8 m.

If $\frac{1}{3}$ of it is pulled out, then remaining portion = $1 - \frac{1}{3} = \frac{2}{3}$

This 8 m is actually $\frac{2}{3}$ of the $\frac{4}{7}$ of the pole.

so,

$$\frac{4x}{7} \times \frac{2}{3} = 8$$

$$\frac{8x}{21} = 8$$

$$x = \frac{8 \times 21}{8} = 21$$

9. B

Sol. Let, $2^x = 7^y = 14^z = k$

$$2^x = k \Rightarrow 2 = k^{1/x} \dots(i)$$

$$7^y = k \Rightarrow 7 = k^{1/y} \dots(ii)$$

$$14^z = k \Rightarrow 14 = k^{1/z} \dots(iii)$$

After multiplying (i) and (ii),

$$2 \cdot 7 = k^{1/x} \cdot k^{1/y} = k^{(1/x + 1/y)}$$

$$\Rightarrow 14 = k^{(1/x + 1/y)}$$

$$\Rightarrow k^{1/z} = k^{(1/x + 1/y)} \text{ [From (iii)]}$$

$$\Rightarrow 1/z = (1/x + 1/y) = (x+y)/xy$$

$$\Rightarrow z = xy/(x+y)$$

10. D

Sol. Difference of percentages of maximum marks obtained by two candidates = $32\% - 20\% = 12\%$

Difference of scores between two candidates

$$= 30 + 42 = 72$$

$\therefore 12\%$ of maximum marks = 72

$$\frac{72 \times 100}{12} = 600$$

\therefore Maximum marks =

\therefore Pass marks = 20% of 600 + 30

$$= 120 + 30 = 150$$

\therefore Required percentage = $\frac{150}{600} \times 100 = 25\%$

11. B

Sol. Let the Cost Price (CP) of 800 gms sugar be = x

$$\text{Then, the CP of 1 kg sugar} = \frac{1000 \times x}{800} = \frac{5x}{4}$$

Loss is 10% , So Selling Price of 1 kg sugar (SP) = $0.90 \times \text{CP}$

$$\text{SP} = 0.90 \times \frac{5x}{4} = 1.125x.$$

Therefore, profit is 12.5% .

12. D

Sol. Let the first amount = x and second amount = 2x

The divided ratio of first amount = 4:3:2:1

$$\text{Part of R in first amount} = \frac{4x}{10} = \frac{2x}{5}$$

$$\text{Part of S in first amount} = \frac{3x}{10}$$

$$\text{Part of T in first amount} = \frac{2x}{10} = \frac{x}{5}$$

$$\text{Part of R in first amount} = \frac{x}{10}$$

Now,

$$\text{Part of R in second amount} = \frac{5 \cdot 2x}{26} = \frac{5x}{13}$$

$$\text{Part of S in second amount} = \frac{6 \cdot 2x}{26} = \frac{6x}{13}$$

$$\text{Part of T in second amount} = \frac{7 \cdot 2x}{26} = \frac{7x}{13}$$

$$\text{Part of U in second amount} = \frac{8 \cdot 2x}{26} = \frac{8x}{13}$$

So,

$$\text{Total amount of R} = \frac{2x}{5} + \frac{5x}{13} = \frac{102x}{130}$$

$$\text{Total amount of S} = \frac{3x}{10} + \frac{6x}{13} = \frac{99x}{130}$$

$$\text{Total amount of T} = \frac{x}{5} + \frac{7x}{13} = \frac{48x}{65} = \frac{96x}{130}$$

$$\text{Total amount of U} = \frac{x}{10} + \frac{8x}{13} = \frac{93x}{130}$$

So, R got the maximum amount.

13. D

Sol. For management, money received by Anil = 10% of 9000 = Rs. 900

$$\text{Balance} = \text{Rs. } (9000 - 900) = \text{Rs. } 8100$$

$$\text{Ratio of investment} = 12000 : 20000$$

$$= 3 : 5$$

$$\text{Anil's share} = \text{Rs. } \left(8100 \times \frac{3}{3+5} \right)$$

$$= \text{Rs.} \left(8100 \times \frac{3}{8} \right)$$

$$= \text{Rs.} 3037.5$$

∴ Amount received by Anil

$$= \text{Rs.} (900 + 3037.5)$$

$$= \text{Rs.} 3937.5$$

14. A

Sol. $200 \times 5 = 100(x + 5)$

$$1000 = 100x + 500$$

$$100x = 500$$

$$x = 5 \text{ days}$$

15. A

Sol. $10 \text{ men} = 15 \text{ women}$

$$\frac{M}{W} = \frac{3}{2}$$

$$8M + 6W = 8 \times \frac{3}{2}W + 6W = 18W$$

Now, 8 women can complete the work in 5 days.

$$\frac{15 \times 5}{\text{Work}} = \frac{18 \times D}{\text{Work}}$$
$$D = \frac{15}{18} \times 5 = \frac{25}{6} = 4\frac{1}{6}$$

16. D

Sol. Capacity of the tank = 6300 m³

Let the filling capacity of the tank be 'a' m³ per minute.

So, the emptying capacity of the tank = (a + 18) m³ per minute

∴ According to the question, we can write the following:

$$\frac{6300}{a} - \frac{6300}{a + 18} = 17.5$$

$$\Rightarrow 6300a + 113400 - 6300a = 17.5a^2 + 315a$$

$$\Rightarrow 17.5a^2 + 315a - 113400 = 0$$

$$\Rightarrow a^2 + 18a - 6480 = 0$$

Solving the above quadratic equation, we get the following:

$$a = 72 \text{ m}^3 \text{ per minute}$$

Hence, the filling capacity of the pump is 72 m³ per minute.

17. A

Sol. *let the distance be x km and initial speed be y kmph.*

According to the question,

$$\frac{x}{y} - \frac{x}{y + 5} = \frac{20}{60} \dots (i)$$

and,

$$\frac{x}{y-4} - \frac{x}{y} = \frac{20}{60} \dots (ii)$$

From equations (i) and (ii),

$$\frac{x}{y} - \frac{x}{y+5} = \frac{x}{y-4} - \frac{x}{y}$$

$$\Rightarrow \frac{1}{y} - \frac{1}{y+5} = \frac{1}{y-4} - \frac{1}{y}$$

$$\Rightarrow \frac{y+5-y}{y(y+5)} = \frac{y+4-y}{y(y-4)}$$

$$\Rightarrow 5(y-4) = 4(y+5)$$

$$\Rightarrow 5y - 20 = 4y + 20$$

$$\Rightarrow y = 40$$

From equation (i),

$$\frac{x}{40} - \frac{x}{45} = \frac{20}{60}$$

$$\Rightarrow \frac{9x - 8x}{360} = \frac{1}{3}$$

$$\Rightarrow x = \frac{360}{3} = 120$$

\therefore Distance = 120 km

Option A is correct.

18. B

Sol. Let the length of the train = L

And, the length of the platform = P

$$\text{So, } 25 \times \frac{5}{18} = \frac{L+P}{18}$$

Then

$$4000 \times \frac{5}{100} + 3500 \times \frac{4}{100} +$$

$$2500 \times \frac{r}{100} = 500$$

$$200 + 140 + 25r = 500$$

$$25r = 160$$

$$r = 6.4$$

Hence the required rate = 6.4%

22. A

Sol. Let the rate of interest be $x\%$

$$\text{Then, amount paid by Suman} = 45000 + \left(45000 \times 2 \times \frac{x}{100}\right)$$

$$= 45000 + 900x$$

$$\text{And amount paid by Madhu} = 45000 \times \left(1 + \frac{x}{100}\right)^2 = 45000 + 900x + 4.5x^2$$

Now, as per question:

$$\text{Amount paid by Madhu} - \text{Amount paid by Suman} = 648$$

$$\Rightarrow 45000 + 900x + 4.5x^2 - 45000 - 900x = 648$$

$$\Rightarrow 4.5x^2 = 648$$

$$\Rightarrow x^2 = 144$$

$$\Rightarrow x = 12$$

Hence, they borrowed the funds at 12% interest rate.

23. A

$$\text{Sol. Side of rhombus} = \sqrt{3^2 + 4^2}$$

$$\text{Perimeter} = 4 \times \text{side}$$

$$= 4 \times 5 = 20 \text{ cm}$$

24. B

Sol. We have,

$$\text{Floor area} = 346.5 \text{ m}^2$$

$$\Rightarrow \pi r^2 = 346.5$$

$$\Rightarrow r^2 = 346.5 \times \frac{7}{22}$$

$$\Rightarrow r^2 = \frac{441}{2} = \left(\frac{21}{2}\right)^2$$

$$\Rightarrow r = \frac{21}{2} \text{ m}$$

$$\text{Length, } l = \sqrt{R^2 + h^2}$$

$$\Rightarrow l = \sqrt{\frac{441}{4} + (14)^2}$$

$$\Rightarrow l = \frac{35}{2} \text{ m}$$

$$\text{Area of canvas} = \pi R l$$

$$= \frac{22}{7} \times \frac{21}{2} \times \frac{35}{2}$$

$$= 577.5 \text{ m}^2$$

$$\text{Length of canvas} = \frac{\text{area}}{\text{width}}$$

$$= \frac{577.5}{1.1} = 525 \text{ m}$$

25. C

Sol. Circumference of pond = $2\pi r$

According to question,

Circumference of the pond = The distance covered by man

$$\Rightarrow 2\pi r = 66 \times 400$$

$$\Rightarrow 2r = 66 \times 400 \times (7/22)$$

$$\Rightarrow 2r = 8400 \text{ cm}$$

Hence, the diameter of pond = $2r = 8400 \text{ cm}$.

26. B

Sol. Let the speeds of A, B, and C be $x \text{ m/s}$, $y \text{ m/s}$ and $z \text{ m/s}$, respectively.

Let the length of the track be L meters.

According to the question stem,

$$L/x = (L - 20)/y \text{ or } x/y = L / (L - 20) \dots\dots (1)$$

$$L/x = (L - 34)/z \text{ or } z/x = (L - 34)/L \dots\dots (2)$$

$$L/y = (L - 15)/z \text{ or } y/z = L / (L - 15) \dots\dots (3)$$

Multiplying the above three equations, we get

$$1 = L (L - 34) / [(L - 15) (L - 20)] \text{ or}$$

$$L^2 - 35L + 300 = L^2 - 34L$$

$$L = 300 \text{ m}$$

Hence, option (B) is the correct answer.

27. B

Sol. Formula for finding the angle = $\left| \frac{11M-60H}{2} \right|$

Here $M = 32$ and $H = 4$

$$\text{Hence the angle} = \frac{11 \times 32 - 60 \times 4}{2} = \left(\frac{112}{2} \right) = 56^\circ$$

Hence option B is the correct answer.

28. C

Sol. Let the cost price of watch be Rs. x

And marked price of watch be Rs. M

A.T.Q,

$$1.60x = 800$$

$$x = 500$$

So, cost price of watch = Rs. 500

$$M \times 0.80 = 800$$

$$M = 1000$$

So, marked price of watch = Rs. 1000

$$\text{Profit percentage if he sells the watch without discount} = \frac{1000-500}{500} \times 100$$

$$= 100\%$$

29. D

Sol. $\angle A = 180^\circ - (90^\circ + 68^\circ)$

$$= 22^\circ$$

In ΔAPQ -

$$AP = PQ$$

$$\angle A = \angle AQP = 22^\circ$$

(External angle of $\triangle APQ$) -

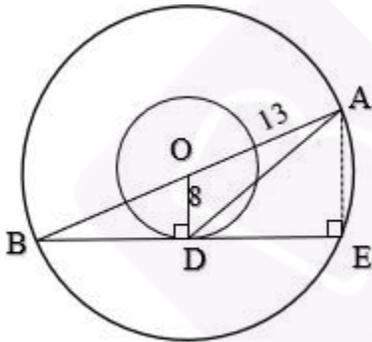
$$\angle QPR = 22^\circ + 22^\circ = 44^\circ = \angle QRP$$

$$\angle QRB = 180^\circ - 44^\circ = 136^\circ$$

30. B

Sol. Produce BD so that it meets bigger circle at E. Join OD and AE, then

$OD \perp BE$ and $\angle AEB = 90^\circ$ (angle in semicircle)



$$\therefore OD \parallel AE$$

$$\therefore \frac{AE}{OD} = \frac{BA}{BO} = \frac{26}{13} \Rightarrow \frac{AE}{8} = \frac{26}{13} \Rightarrow AE = 16 \text{ cm}$$

In $\triangle ODB$,

$$BD = \sqrt{OB^2 - OD^2} = \sqrt{13^2 - 8^2} = \sqrt{105} \text{ cm}$$

Now, $BD = DE$, since radius is perpendicular bisector of chord,

we also know that in triangle ABE, AB is diameter hence angle E = 90°

Now in triangle ADE

$$AD = \sqrt{AE^2 + DE^2} = \sqrt{256 + 105} = \sqrt{361} = 19$$

31. A

Sol. $\cos x + \cos y = 2$

We know that $\cos 0^\circ = 1$

Therefore $\cos x = \cos 0^\circ = 1$

and $\cos y = \cos 0^\circ = 1$

Thus $\cos x + \cos y = 2$

Hence the value of x and $y = 0^\circ$

Substituting the value of x and y in $\sin x + \sin y$; we get

$$\sin 0^\circ + \sin 0^\circ = 0 \quad [\sin 0^\circ = 0]$$

Hence Option A is correct

32. A

Sol. We know, n th term of an AP is

$$a_n = a + (n - 1)d$$

where 'a' and 'd' are first term and common difference respectively.

Given,

$$m a_m = n a_n$$

$$\Rightarrow m(a + (m - 1)d) = n(a + (n - 1)d)$$

$$\Rightarrow ma + m(m - 1)d - na - n(n - 1)d = 0$$

$$\Rightarrow a(m - n) + d[m(m - 1) - n(n - 1)] = 0$$

$$\Rightarrow a(m - n) + d(m^2 - n^2 - (m - n)) = 0$$

$$\Rightarrow (m - n)[a + d(m + n - 1)] = 0$$

Since, $m \neq n$

$$a + d(m + n - 1) = 0$$

$$\Rightarrow a_{m+n} = 0$$

Hence, Option A is correct.

33. B

Sol. When three points A, B and C are collinear then area of ΔABC is 0

We know that, Area of a triangle joining the points (x_1, y_1) , (x_2, y_2) and (x_3, y_3) is

$$\frac{1}{2}(x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2))$$

Putting the values, we get

$$0 = \frac{1}{2}(k(3k - 1) + 3k(1 - 2k) + 3(2k - 3k))$$

$$\Rightarrow 0 = 3k^2 - k + 3k - 6k^2 - 3k$$

$$\Rightarrow 3k^2 + k = 0$$

$$\Rightarrow k(3k + 1) = 0$$

$$\Rightarrow k = 0 \text{ or } 3k + 1 = 0$$

But, $k = 0$ isn't possible as in that case first two points will have same coordinates

$$\therefore 3k + 1 = 0$$

$$\Rightarrow k = -1/3$$

Hence, Option B is correct.

34. B

Sol. There are many other medium of entertainment like TV, Films etc. Thus, assumption I is not implicit.

Obviously, people enjoy these platforms, this is the reason of increasing popularity of OTT platforms. Thus, assumption II is implicit.

Hence, option B is the correct answer.

35. C

Sol. Sensex is only one of the indicators of the economy. So, inference I cannot be made.

There is nothing given about retail investors. So, the inference is irrelevant and cannot be made.

Thus, Neither I nor II inference can be made.

Hence, option C is the correct answer.

36. C

Sol. It can be assumed that Japanese technology is better than any other technology.

only assumption II is implicit.

Hence, option C is the correct answer.

37. D

Sol. Based on the given statement it can be assumed that 'XYZ' is a contagious disease (spread from one person or organism to another) and therefore all the patient infected by the same disease are kept in ward no. 145. So, both I and II are implicit.

Hence, option D is the correct answer.

38. B

Sol. Based on the given statement, it cannot be assumed that only the diving helmets manufactured by company Z' function well and not others, as preference can be on multiple choice factors, hence assumption I is not implicit. Now, as company Z's diving helmets are light weight helmets therefore it can be assumed that this property of diving helmet make it more comfortable than the heavier ones, hence assumption II is implicit.

Hence, option B is the correct answer.

39. D

Sol. Percentage of marks scored by Mishti = $\frac{80 + 65 + 70}{300} \times 100 = 71.66\%$

Percentage of marks scored by Kriti = $\frac{70 + 80 + 90}{300} \times 100 = 80\%$

Percentage of marks scored by Nora = $\frac{60 + 65 + 70}{300} \times 100 = 65\%$

Percentage of marks scored by Shilpa = $\frac{80 + 90 + 100}{300} \times 100 = 90\%$

Therefore, Shilpa scored highest percentage of marks.

40. A

Sol. Total marks scored by Mishti = $80 + 65 + 70 = 215$

Total marks scored by Kriti = $70 + 80 + 90 = 240$

Total marks scored by Nora = $60 + 65 + 70 = 195$

Total marks scored by Shilpa = $80 + 90 + 100 = 270$

Therefore, average marks scored by the four girls = $\frac{215+240+195+270}{4} = 230$

41. B

Sol. Marks obtained by Kriti in Maths = 90

Marks obtained by Mishti in Physics = 80

Therefore, required answer = $\frac{90}{80} \times 100 = 112.5\%$

42. B

Sol. Since total marks in each subject is 100 and passing percentage of marks is 70%,

Percentage of marks obtained by Mishti in chemistry = 65%

Percentage of marks obtained by Kriti in chemistry = 80%

Percentage of marks obtained by Nora in chemistry = 65%

Percentage of marks obtained by Shilpa in chemistry = 90%

Therefore, total 2 of them has passed in Chemistry.

43. C

Sol. Percentage of marks obtained by Shilpa = $\frac{270}{300} \times 100 = 90\%$

Percentage of marks obtained by Kriti = $\frac{240}{300} \times 100 = 80\%$

Therefore, required ratio = $90 : 80 = 9 : 8$

44. B

Sol. Female in post of Guard = 15% of 1500 - 18% of 800 = 225 - 144 = 81

Female in post of Supervisor = 19% of 1500 - 16% of 800 = 285 - 128 = 157

Female in post Clerk of clerk = 10% of 1500 - 11% of 800 = 150 - 88 = 62

Total = 157 + 81 + 62 = 300

45. C

Sol. Male in post of Team Leader and Chairman = $(12 + 10)\%$ of 800 = $\frac{22}{100} \times 800 = 176$

Female in post of Team Leader and Chairman = $(12 + 8)\%$ of 1500 - 176 = 300 - 176 = 124

Req. Ratio = 176: 124 = 44 : 31

46. A

Sol. Male in post of Supervisor and Clerk = $(16 + 11)\%$ of 800 = 216

Female in post of Supervisor and Clerk = $[(19 + 10)\%$ of 1500] - 216
= 435 - 216 = 219

Average = $\frac{219}{2} = 109.5$

47. D

Sol. Male employees in post of CLERK = 11% of 800 = 88

Female employees in post of TEAM LEADER = $[12\%$ of 1500] - $[12\%$ of 800]
= 180 - 96 = 84

Total male employees in post of Clerk and female employees in post of TEAM LEADER = 172

Total number of employees in post of CLERK and post of TEAM LEADER
= $(10 + 12)\%$ of 1500 = 330

Req. % = $\frac{172}{330} \times 100 = 52.12\% \approx 52\%$

48. B

Sol. Number of female employees in post of MANAGER and CHAIRMAN = 178

Male employees in post of CLERK and TEAM LEADER
= $(11 + 12)\%$ of 800 = 184

Req. % = $\frac{(184 - 178)}{184} \times 100 \approx 3\%$ (less)

49. C

Sol. The logic follow here is that the difference between the two number is 4

B + 4 = F

Y + 4 = C

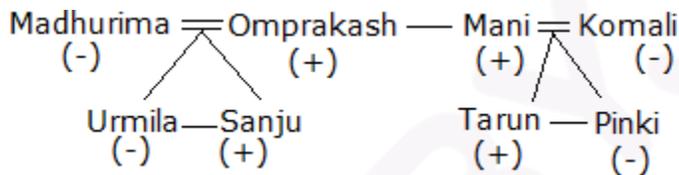
Z + 6 = F

$$M + 4 = Q$$

Hence, option C is the correct answer.

50. D

Sol. As per the given information the family tree will be:

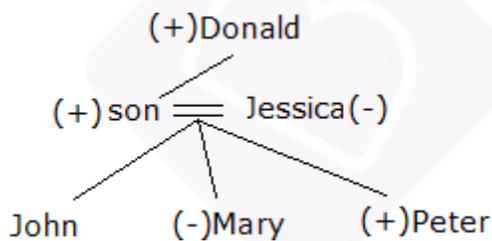


Clearly, Madhurima is the sister-in-law of Komali.

Hence, option D is the correct answer.

51. B

Sol. As per the given information:



Clearly, Jessica is the wife of Mary's father.

Hence, option B is the correct answer.

52. A

Sol. 2.47 hour

$$.47 \text{ hour} = .47 * 60 = 28.2 \text{ minutes}$$

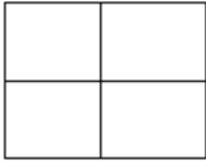
$$.2 \text{ minutes} = .2 * 60 = 12 \text{ second}$$

So 2.47 hour = 2 hour 28 minutes 12 second

Hence, option A is the correct answer.

53. C

Sol.



If we count this figure there are 5 squares here so according to this there are 5 squares shown so $5 + 5 + 5 + 5 + 5 = 25$

And 4 squares are at the corners of the figure so $25 + 4 = 29$

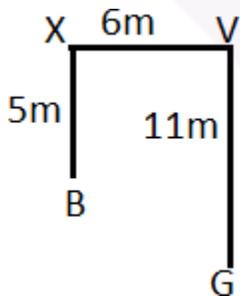
There are 29 squares in the following figure.

Hence, the correct option is C.

54. C

Sol. 1. Point B is 5m to the south of point X. Point X is 6m to the west of point V.

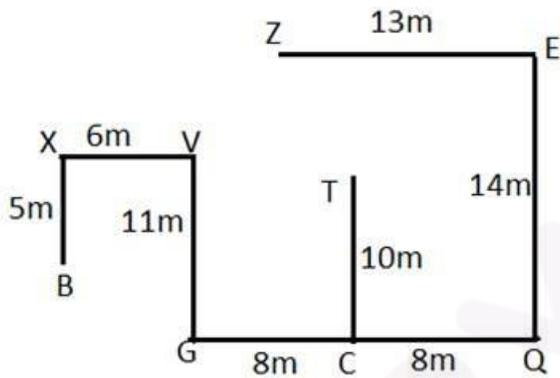
2. Point V is 11m to the north of point G.



3. Point C is 8m to the east of G.

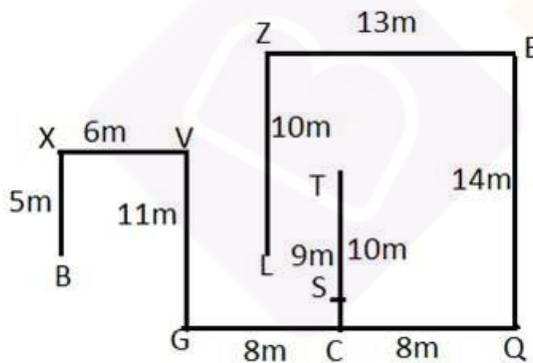
4. Point C is 8 m to the west of point Q. Point E is 14m to the north of point Q.

5. Point T is 10m to the north of point C. Point Z is 13m to the west of point E.



6. Point L is 10 m to the south of point Z. Point S is 9m to the south of point T.

So final answer is:

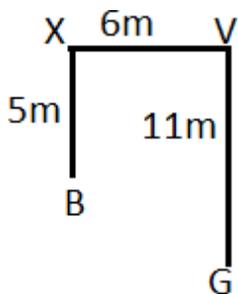


Hence, T is to the south-east of V.

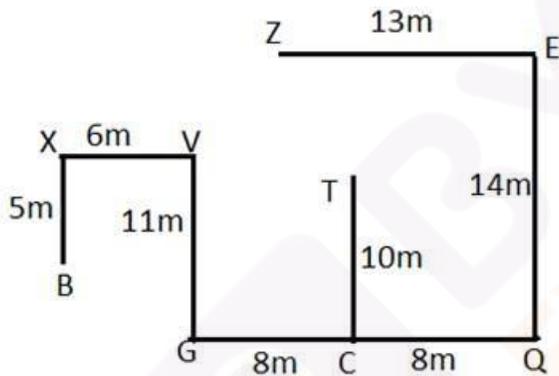
55. A

Sol. 1. Point B is 5m to the south of point X. Point X is 6m to the west of point V.

2. Point V is 11m to the north of point G.

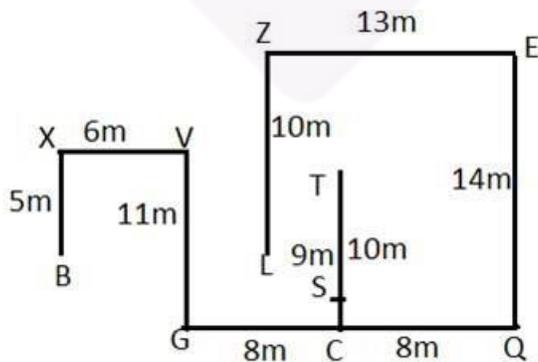


3. Point C is 8m to the east of G.
4. Point C is 8 m to the west of point Q. Point E is 14m to the north of point Q.
5. Point T is 10m to the north of point C. Point Z is 13m to the west of point E.



6. Point L is 10 m to the south of point Z. Point S is 9m to the south of point T.

So final answer is:



The shortest distance = $\sqrt{(13^2 + 10^2)} = \sqrt{269}$

Hence, option A is correct.

56. C

Sol. The logic follow here is

AMFMAFAA put the starting AM in the last and positon of all the other remains same

So AMFMAFAA= FMAFAAAM

Similarly

DODADODA= DADODADO

Hence, option C is the correct answer.

57. B

Sol. According to the given information;

Faiza collected more mugs than Suraiya but less than Saifina.

Saifina > Faiza > Suraiya

Roohi collected more mugs than Razia but less than Heena.

Heena > Roohi > Razia

Saifina collected less mugs than Razia.

Heena > Roohi > Razia > Saifina > Faiza > Suraiya

Thus, Heena collected most mugs.

Hence, option B is the correct answer.

58. B

Sol. 1) B likes Pastry but doesn't belong to Agra.

2) E belongs to Jaipur.

People	Cities	Food Items	Not
A			
B		Pastry	Agra
C			
D			
E	Jaipur		
F			
G			

3) C neither likes Jalebi nor Pizza.

4) G belongs to Dehradun.

5) D likes Burger.

People	Cities	Food Items	Not
A			
B		Pastry	Agra
C			Jalebi, Pizza
D		Burger	
E	Jaipur		
F			
G	Dehradun		

- 6) The one who belongs to Agra likes Pizza.
- 7) F doesn't like Pizza.
- 8) The one who belongs to Ajmer likes Jalebi.
- 9) The one who belongs to Hyderabad likes Dhokla.

People	Cities	Food Items	Not
A	Agra	Pizza	
B		Pastry	Agra
C	Hyderabad	Dhokla	Jalebi, Pizza
D		Burger	
E	Jaipur		
F	Ajmer	Jalebi	Pizza
G	Dehradun		

- 10) D doesn't belong to Bareilly.
- 11) G doesn't like Sandwich.

People	Cities	Food Items	Not
A	Agra	Pizza	
B	Bareilly	Pastry	Agra
C	Hyderabad	Dhokla	Jalebi, Pizza
D	Pune	Burger	Bareilly
E	Jaipur	Sandwich	
F	Ajmer	Jalebi	Pizza
G	Dehradun	Noodles	Sandwich

Clearly, G likes Noodles.

59. D

Sol. 1) B likes Pastry but doesn't belong to Agra.

2) E belongs to Jaipur.

People	Cities	Food Items	Not
A			
B		Pastry	Agra
C			
D			
E	Jaipur		
F			
G			

3) C neither likes Jalebi nor Pizza.

4) G belongs to Dehradun.

5) D likes Burger.

People	Cities	Food Items	Not
A			
B		Pastry	Agra
C			Jalebi, Pizza
D		Burger	
E	Jaipur		
F			
G	Dehradun		

6) The one who belongs to Agra likes Pizza.

7) F doesn't like Pizza.

8) The one who belongs to Ajmer likes Jalebi.

9) The one who belongs to Hyderabad likes Dhokla.

People	Cities	Food Items	Not
A	Agra	Pizza	
B		Pastry	Agra
C	Hyderabad	Dhokla	Jalebi, Pizza
D		Burger	
E	Jaipur		
F	Ajmer	Jalebi	Pizza
G	Dehradun		

10) D doesn't belong to Bareilly.

11) G doesn't like Sandwich.

People	Cities	Food Items	Not
A	Agra	Pizza	
B	Bareilly	Pastry	Agra
C	Hyderabad	Dhokla	Jalebi, Pizza
D	Pune	Burger	Bareilly
E	Jaipur	Sandwich	
F	Ajmer	Jalebi	Pizza
G	Dehradun	Noodles	Sandwich

Clearly, D belongs to Pune.

60. A

Sol. 1) B likes Pastry but doesn't belong to Agra.

2) E belongs to Jaipur.

People	Cities	Food Items	Not
A			
B		Pastry	Agra
C			
D			
E	Jaipur		
F			
G			

3) C neither likes Jalebi nor Pizza.

4) G belongs to Dehradun.

5) D likes Burger.

People	Cities	Food Items	Not
A			
B		Pastry	Agra
C			Jalebi, Pizza
D		Burger	
E	Jaipur		
F			
G	Dehradun		

- 6) The one who belongs to Agra likes Pizza.
- 7) F doesn't like Pizza.
- 8) The one who belongs to Ajmer likes Jalebi.
- 9) The one who belongs to Hyderabad likes Dhokla.

People	Cities	Food Items	Not
A	Agra	Pizza	
B		Pastry	Agra
C	Hyderabad	Dhokla	Jalebi, Pizza
D		Burger	
E	Jaipur		
F	Ajmer	Jalebi	Pizza
G	Dehradun		

- 10) D doesn't belong to Bareilly.
- 11) G doesn't like Sandwich.

People	Cities	Food Items	Not
A	Agra	Pizza	
B	Bareilly	Pastry	Agra
C	Hyderabad	Dhokla	Jalebi, Pizza
D	Pune	Burger	Bareilly
E	Jaipur	Sandwich	
F	Ajmer	Jalebi	Pizza
G	Dehradun	Noodles	Sandwich

Clearly, 'D - Dehradun - Burger' is not correct.

61. D

Sol. X % 9 3 H 6 I # 7 L \$ M 2 & C N K © 4 5 E 8 @ Z 3 5 8 ! A K 8 9

After deleting digits - X % H I # L \$ M & C N K © E @ Z ! A K

Therefore, option D is the correct answer.

62. C

Sol. X % 9 3 H 6 I # 7 L \$ M 2 & C N K © 4 5 E 8 @ Z 3 5 8 ! A K 8 9

Therefore, option C is the correct answer.

63. B

Sol. The pattern is as follows:

$$\begin{array}{cccccc} 117 & 98 & 80 & 63 & 47 & 32 \\ \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \\ -19 & -18 & -17 & -16 & -15 & \end{array}$$

Hence, option B is the correct answer.

64. A

Sol. The word 'Focus' and 'Distract' both are opposite words. Similarly, 'Precise- that means a person who is very careful' and 'Careless' both are opposite words.

Hence, option A is the correct answer.

65. B

Sol. Except B, all are professions. Principal is a designation.

Hence, option B is the correct answer.

66. D

Sol. Medicines are used to treat Human body similarly in plants Pesticides are used in Plants.

Human body : Medicines : : Plants : Pesticides

67. B

Sol. Ans. (B)

Explanation: As first line mentions that Picasso learned to draw before he could talk one can infer that he was talented. Second line mentions he was good looking. So option B is correct.

68. C

Sol. If one does not observe restraints, they will be imposed upon them, the false doctrine will gain ground and people will no more have the ability to see through nonsense, political, economic, scientific and so on. In other words, people's lives will be miserable.

69. A

Sol. Afraid = feeling fear or anxiety; frightened

Confident = feeling or showing confidence in oneself or one's abilities or qualities

Happy = feeling or showing pleasure or contentment

Delighted = take great pleasure in

The sentence has already mentioned in the latter part that the subject is terrified and this part is used to emphasize the former part. "Afraid" seems the apt choice.

Hence, option A is the correct answer.

70. C

Sol. We use 'would have' as the past tense form of 'will have'. It is also used in conditionals to talk about something that did not happen in the past. But in this sentence, it shows a possibility or outcome i.e. the subject might have gone to swimming if it had not been that warmer.

Hence, option C is the correct answer.

71. B

Sol. We need an adverb in the blank to modify the verb "had to cough". So, "loudly" is appropriate to put in there. 'Loud' is an adjective and 'loudness' is noun. "Aloudly" is not a meaningful word, we either can use aloud or loudly.

Hence, option B is the correct answer.

72. B

Sol. Let us understand the meaning of the given words :-

Went on = to continue for a tedious or exasperating length of time.

Boiled up = feel a negative emotion strongly.

Held up = to cause a delay for someone or something.

Turned out = to prove to be in the result or end.

Hence, option B is the correct answer.

73. B

Sol. 'Could have' means that something was possible in the past, but it did not happen. In the given sentence,

it has been mentioned that the subject 'could have gone directly to college but he/she didn't go and decided to travel'.

Hence, option B is the correct answer.

74. D

Sol. Let us understand the meaning of the given words :-

Talk into = to get (someone) to do something by talking about the good reasons for doing it.

Ran away = one that runs away from danger, duty, or restraint.

Made up = fancifully conceived or falsely devised.

Ran into = to meet someone by chance.

Hence, option D is the correct answer.

75. A

Sol. The given blank needs to be filled with an adjective.

Let us understand the meaning of the given words :-

- **Immaculate** = completely neat and clean.
 - **Upon** = in contact with, on top of.
 - **Weird** = suggesting the operation of supernatural influences.
 - **Tense** = increase the tension on.
-
- The presence of 'well-dressed' shows that clean or neat, will come with it.
 - Thus, '**immaculate**' is the most suited one.

Hence, **option A** is the correct answer.

76. A

Sol. ♦ "As/as" compares nouns using an adjective or an adverb.

e.g. *The world's biggest bull is as big as a small elephant.*

- ♦ We use "either... or..." to connect items that are the same grammatical type, e.g. words, phrases, clauses.

e.g. *It's either black or grey. I can't remember.*

- ♦ We use "neither...nor..." It connects two or more negative alternatives.

e.g. Neither Vijay nor I eat meat.

- ♦ We use "both ... and" to emphasise the link between two things.

e.g. We use *both ... and* to emphasise the link between two things. This makes a stronger connection than *and* alone

Hence, **option A** is the correct answer.

77. D

Sol. Above paragraph is about 'Fly ash' and refers to a chain of an idea (Production- demand- usage).

Sentence R will be the first sentence, as it defines 'fly ash' by referring to the place of its production.

Sentence P gives further information, i.e. the demand of 'fly ash' as raw material. Sentence Q concludes by mentioning the use of fly ash in different industries. Thus, the correct sequence is RPQ.

78. B

Sol. Sentence A should be the first sentence, as it gives information about the wolf. Sentence C and B together form a meaningful pair, therefore sentence B should be the next sentence in the queue. Sentence D is the concluding portion of the sentence, and will appear in the last.

Thus, the correct sequence is ACBD.

79. A

Sol. The central theme of the sentence is that cars were owned by very few people and the author's society was not one of them. The first part should be cars were owned by very few people and only a privileged few owned cars, given by AB together. The third part should tell us about the author's society, given by C. The fourth part further gives details that their society did not own cars, given by D. Thus, the correct sequence is ABCD.

80. C

Sol. The sentence is grammatically incorrect and the error lies in **option C**.

- Use of **as though/ as if/ if** indicates the **subjunctive mood**.
- The subjunctive mood is a verb form that is used for **unreal or hypothetical statements**.
- In this mood, the verb "**was**" is replaced with "**were**". It is made up of the phrases *I were, he were, she were, it were*, etc.
- The subjunctive mood is often used to refer to **regret, unfulfilled wish, or unlikely condition**.
- *For example: "If I were taller, I could dunk a basketball", OR, "Chirag spends money as if he were a millionaire"*.
- The first sentence is talking about situations that would happen if "I were taller", **speaking hypothetically**.
- And the second sentence is examples of **unreal statements**. It means Chirag is not a millionaire.
- Similarly, in the given sentence, "**he**" **was not the "father"**, **he was the "counsellor"**, **but he acted like a father**.
- Thus we must use "**He were**" in place of "**He was**".

Hence, the correct sentence will be: **He scolded me in a way as if he were my father, and not my counsellor.**

81. C

Sol. The sentence is grammatically incorrect and the error lies in option C.

The use of "last night" suggests that we need the verb in the simple past tense.

Thus, replace "has arrested" with simply "arrested".

82. A

Sol. Option A has the grammatically incorrect part. The noun 'memories' is a plural noun; therefore, it will take a plural verb 'are' in place of 'is'. Thus, replace 'is' with 'are' to make the sentence grammatically sound.

83. C

Sol. The sentence is grammatically incorrect and the error lies in option C. 'Sagey' refers to having wisdom that comes with age and experience, which does not convey any meaning here. It should be 'cagey' in place of it, which means characterized by great caution and wariness or showing self-interest and shrewdness in dealing with others.

84. B

Sol. Let's first learn the meanings of the given words:

Multifaceted = having many different parts or sides

Simplified = to reduce to basic essentials; to diminish in scope or complexity
e.g. the new simplified tax system

Impenetrable = impossible to see through or go through

Extreme = very large in amount or degree

Multifarious = of many different types

e.g. The newspaper report detailed the fraudster's multifarious business activities.

Hence, option B is the correct answer.

85. B

Sol. Let's first learn the meanings of the given words:

Quotidian = occurring every day; belonging to each day (every day).

e.g. Television has become part of our quotidian existence.

Dejected = unhappy, disappointed, or without hope

Obdurate = extremely determined to act in a particular way and not to change despite what anyone else says

Extraordinary = very unusual, special, unexpected, or strange

Garden-variety = very common or ordinary
e.g. an ordinary, garden-variety mystery story.

Hence, option B is the correct answer.

86. A

Sol. Let's understand the meaning of the given words:

Preclude: to prevent something or make it impossible, or prevent someone from doing something

E.g.: His contract precludes him from discussing his work with anyone outside the company.

Assist: give assistance; be of service

E.g.: he gave me an assist with the housework

Deter: try to prevent; show opposition to

Froward: habitually disposed to disobedience and opposition

Fervent: characterized by intense emotion

Hence, option A is the correct answer.

87. D

Sol. Let's first learn the meanings of the given words:-

Tyranny = unlimited authority or use of power, or a government that exercises such power without any control or limits.

E.g. :- This, the president promised us, was a war against tyranny.

Misfit = someone who is not suited to a situation or who is not accepted by other people because their behaviour is strange or unusual.

Power = possession of controlling influence.

Madness = a feeling of intense anger.

Absolutism = a political system in which a single ruler, group, or political party has complete power over a country.

E.g. :- It appears to be pretty certain that he did not want absolutism.

Hence, **option D** is the correct answer.

88. D

Sol. The idiom "to cross the Rubicon" means to make a decision or take a step that commits one to a specific course of action from which there is no turning back.

Example: Most EU states have crossed the Rubicon and adopted the euro.

Hence, option D is the correct answer.

89. B

Sol. The idiom 'cry for the moon' means 'ask for what is unattainable or impossible'.

For example, "there must be no more self-pity, no more time wasted on crying for the moon."

Hence, option B is the correct answer.

90. D

Sol. The idiom "take as gospel truth" means to believe that something is absolutely true without any hesitation or reservations.

For example: The ordinary people generally take the ministers' fake promises as gospel truth and suffer the most.

Hence, option D is the correct answer.

91. B

Sol. The given sentence is in the active form and it is an assertive sentence. The sentence is in the past indefinite tense.

The structures for active/passive voices are:

Active Voice: Subject + V2 + Object

Passive Voice: Object + was/were + Verb (V3 form) + by + Subject

So, with the help of the above instructions, we can convert the given sentence into passive voice: **The sentence was delivered by the judge at the courtroom yesterday.**

Hence, **option B** is the correct answer.

92. A

Sol. The given sentence is in active form of an **imperative sentence**. The sentence is in **past tense**.

The structures for active/passive voices are:

Active Voice: **Verb (V1 form) + Object.**

Passive Voice (for order/command): **Let + Object + be + Verb (V3 form).**

So, with the help of the above instructions, we can convert the given sentence into passive voice: **Let all the doors and windows be shut in the night.**

PS: Another possible passive structures of imperative sentence:

1. For Advice/Moral Suggestion: **Object + should be + Verb (V3 form)**

All the doors and windows should be shut in the night.

2. For order: **You are ordered + to + V1 + Object**

You are ordered to shut all the doors and windows in the night.

Hence, **option A** is the correct answer.

93. D

Sol. The given sentence is in active voice. Its tense is future perfect. Let us understand the structures for active/passive voices for such sentences.

Active: Subject + will/shall + have + verb (IIIrd form)....

Passive: Object + will/shall + have + been + verb (IIIrd form) + by + subject...

So, with the help of the above structures, we can convert the sentence into passive voice:
Our new guests will be welcomed by us.

Hence, **option D** is the correct answer.

94. C

Sol. The given sentence an interrogative sentence and it is in active voice.

The structures for active/passive voices are:-

Active: **Has/have + subject + verb (IIIrd form) + object?**

Passive: **Has/have + object + been + verb (IIIrd form) + by + subject?**

So, the passive voice of the given sentence would be:- **Has this been experienced before by you?**

Hence, **option C** is the correct answer.

95. B

Sol. The sentence is given in **direct speech**, and we need to convert it into indirect speech. It is an **assertive sentence**.

The rules for changing such sentences into indirect speech are given below:-

- The inverted commas (“ ”) used in Direct Narration is removed in Indirect Narration and **“that”** conjunction is used.

- ♦ **Said** remains same in indirect speech as it is **not followed by an object**.
- ♦ The reported speech here, is an obligation i.e., the management is obliged or ought to do something. So **'ought to or should'** will be used in indirect speech to show obligation.
- ♦ **"Let" is removed** in the indirect speech.

So, with the help of the above structures, we can convert the given sentence into indirect speech: **The workers said that the management should do something.**

Hence, **option B** is the correct answer.

96. D

Sol. The given sentence is a direct speech, and we need to convert it into indirect speech. The sentence is in **present tense**.

The rules for changing such sentences into indirect speech are given below:-

- ◊ The inverted commas (“ ”) used in Direct Narration is removed in Indirect Narration and “that” conjunction is used.
- ◊ The reported speech here, is a command i.e., everyone should come in time.
- ◊ **'Said'** will be changed to **'ordered'**.
- ◊ And it is made by writing **'should + v1'**.
- ◊ Remove words like 'let', etc.

The sentence in indirect speech will be :- **“The principal ordered that every one should come in time.”**

Hence, option D is the correct answer.

97. A

Sol. Transaction of the second is done through the first.

Hence, option A is the correct answer.

98. D

Sol. Second is a measure of the boundary of the first.

Hence, option D is the correct answer.

99. C

Sol. **Option C** is incorrect word, and its correct spelling is '**herbivores**' which means any animal that feeds chiefly on grass and other plants.

Meaning of other words are :-

Dinosaurs = any of numerous extinct terrestrial reptiles of the Mesozoic era.

Abundant = present in great quantity.

Hemisphere = half of the terrestrial globe.

100. C

Sol. Option C has the correctly spelt word. **Enterprise** means a project or undertaking, especially a bold or complex one.

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