MAT 2025 PBT Question Paper

Time Allowed :120 Minutes	**Maximum Marks :**150	**Total questions :**150

General Instructions

Read the following instructions very carefully and strictly follow them:

1. **Total number of questions:** 150
2. **Number of questions per session:** 30
3. **Exam duration:** 120 minutes
4. **Total marks:** 150
5. **Marking scheme:**
   - +1 for each correct entry
   - -0.25 for each incorrect entry
   - 0 for not attempting a question

1. Sumit can row a distance of 9 km in one hour in still water and he can now row the same distance in 45 minutes with the current. Find the total time taken by him to row 36 km with the current and return to the starting point.

(A) 8 hrs

(B) 9 hrs

(C) 10 hrs

(D) 12 hrs

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2. A shopkeeper makes a profit of 17% by giving a discount of 22% on the marked price of an article. But with a view to gain more profit, he reduces the discount to 18% and makes a higher profit. How much is the difference in his profit percentage with this reduction in discount?

(A) 6%

(B) 7.5%

(C) 8%

(D) 9%

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3. How many 4-digit numbers can be formed using digits 1 to 6 if the digit 4 is never there in the number and the repetition of digits is not allowed?

(A) 116

(B) 118

(C) 120

(D) 124

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4. A jug was full of juice. A person draws out $\frac{1}{6}$ of the juice from the jug and replaces it with water. He repeated this process 3 times and thus there was only 1250 ml of juice left in the jug. What was the initial quantity of juice in the jug?

(A) 2.775 L

(B) 2.565 L

(C) 2.330 L

(D) 2.160 L

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5. A batch of 36 school children goes for an excursion trip to Nainital. When one 10-year-old child is replaced with another child, the average age of the children in the batch increases by $2\frac{1}{2}$ months. What is the age of the new child?

(A) 16 years

(B) 16.5 years

(C) 17 years

(D) 17.5 years

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6. Mohan can reach his destination on time by travelling at a speed of 54 km/hr. If one-fourth of the time, he covers $\frac{2}{9}$ of the total distance, at what speed should the remaining distance be travelled so as to reach his destination on time?

(A) 60 km/hr

(B) 58 km/hr

(C) 56 km/hr

(D) 54 km/hr

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7. The ages of Ajay and Vijay differ by 22.5 years. If $6\frac{1}{2}$ years ago, Vijay was $3\frac{1}{2}$ times as old as Ajay, find their present ages.

(A) $14\frac{1}{2}$ yrs, 37 yrs

(B) 15 yrs, $37\frac{1}{2}$ yrs

(C) $15\frac{1}{2}$ yrs, 38 yrs

(D) 16 yrs, $38\frac{1}{2}$ yrs

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8. Ram kumar, a trader mixes two varieties of Moong dal, totally weighing 90kg worth Rs7443. The price of the first variety that he mixes is Rs57.50 per kg and that of the second variety is Rs111.50 per kg. How much quantity of the second variety of moong dal does he mix?

(A) 34kg

(B) 38kg

(C) 42kg

(D) 46kg

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9. Bittu, a fruit seller purchased some fruit items and raised its price by 35%. But due to some urgency, he had to sell it immediately by giving 35% discount on the face value. Then, how much was the percentage gain or loss after giving discount?

(A) Gain 12.25%

(B) Gain 15.75%

(C) Loss 12.25%

(D) Loss 15.75%

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10. Probability of getting a rotten apple from a lot of 480 apples is 0.125. Find the number of good apples.

(A) 400

(B) 412

(C) 418

(D) 420

11. If HCF of the numbers 299, 253 and a third number 'A' is 23 and their LCM is 16445, then what is the number 'A'?

(A) 69

(B) 95

(C) 115

(D) 138

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12. A boy, Chintu while playing with modelling clay, changes a cone shaped toy into a spherical toy. The height of the cone was 20cm and radius of base was 5 cm. Find the radius and the surface area of the sphere

(A) 308 sqcm

(B) 310sqcm

(C) 312sqcm

(D) 314sqcm

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13. When viewed from a point P which is 56 metres above a lake, the angle of elevation is 30 and from the same point, the angle of depression of its reflection in the lake 60. What is the height of the cloud?

(A) 112m

(B) 110m

(C) 108m

(D) 106m

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14. A packet contains 15 blue beads, 16 yellow beads and 19 orange beads. A bead is drawn at random from the packet. Find the probability that the bead drawn is:

1. an orange bead
2. a blue or a yellow bead

(A) (1)-19/50, (2)-31/50

(B) (1)- 8/25., (2)-31/50

(C) (1)- 8/25, (2)-1/50

(D) (1)- 7/50, (2)-31/50

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15. What quantity of water (in ml) should be added to reduce glycerin content from 60% to 50% in a 320ml body lotion?

(A) 50ml

(B) 55ml

(C) 60ml

(D) 64ml

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16. Five people – Akash, Bidhan, Chandan, Dinesh, and Esha – are sitting around a circular table. The following conditions are given:

1. Chandan is third to the right of Farooq.
2. Bidhan is second to the right of Chandan.
3. Dinesh is not sitting next to Chandan.
4. Akash is not sitting next to Bidhan.

Which pair is sitting next to each other?

(A) Farooq - Chandan

(B) Chandan - Akash

(C) Dinesh - Esha

(D) Bidhan - Akash

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17. Akash, Bindan, Chandan, Dinesh, Esha, and Farooq are seated around a circular table facing the center. The following conditions are given:

1. Chandan is third to the right of Farooq.
2. Bindan is second to the right of Chandan.
3. Dinesh is not sitting next to Chandan.
4. Akash is not sitting next to Bindan.

What is Bindan's position with respect to Farooq?

(A) 1st to the left of Farooq

(B) 2nd to the left of Farooq

(C) 4th to the left of Farooq

(D) 5th to the left of Farooq

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18. Akash, Bindan, Chandan, Dinesh, Esha, and Farooq are seated around a circular table facing the center. The following conditions are given:

1. Chandan is third to the right of Farooq.
2. Bindan is second to the right of Chandan.
3. Dinesh is not sitting next to Chandan.
4. Akash is not sitting next to Bindan.

Who is sitting between Bindan and Chandan?

(A) Farooq

(B) Esha

(C) Dinesh

(D) Akash

19. Akash, Bidhan, Chandan, Dinesh, Esha, and Farooq are seated around a circular table facing the center. The following conditions are given:

1. Chandan is third to the right of Farooq.
2. Bidhan is second to the right of Chandan.
3. Dinesh is not sitting next to Chandan.
4. Akash is not sitting next to Bidhan.

How many persons are seated to the left of Akash and to the right of Esha?

(A) 2

(B) 4

(C) 3

(D) 5

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20. The table shows the marks of five engineering students in Thermodynamics and Hydraulics. The total marks obtained by Tahir in both subjects are more than the marks obtained by:

Name	Thermodynamics	Hydraulics
Parikh	130	80
Quesh	120	110
Rao	80	100
Sharma	70	120
Tahir	50	60

(A) Quesh in Hydraulics

(B) Rao in Thermodynamics

(C) Sharma in Hydraulics

(D) Parikh in Hydraulics

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21. The table shows the marks of five engineering students in Thermodynamics and Hydraulics. What is the ratio between the total marks obtained by Parikh in Thermodynamics and Hydraulics together and the same by Tahir?

(A) 3:2

(B) 4:3

(C) 5:3

(D) None of these

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22. The table shows the marks of five engineering students in Thermodynamics and Hydraulics. What is the ratio between the total marks obtained by Quesh and Sharma together in Hydraulics and the total marks obtained by Parikh and Rao together in Thermodynamics?

(A) 23:25

(B) 23:21

(C) 11:19

(D) 17:23

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23. If the marks obtained by Tahir in Thermodynamics were increased by 24% of the original marks, then what would be his new approximate percentage in Thermodynamics, when the maximum marks were 140?

(A) 49%

(B) 53%

(C) 57%

(D) 41%

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24. The Chatterjee family has 8 members: A, B, C, D, E, F, G, H. There are 3 generations in the family. They go to 4 different countries: France, Canada, UK, and USA. They make 4 groups of 2 members each, and each group goes to one country. The family consists of 3 married couples, and each couple forms a group. The following conditions are given:

1. The family consists of 3 married couples and each couple forms a group.
2. The oldest member of the family goes to Canada.
3. H, a female, is married to E, who does not go to UK.
4. B and D form a group and agreed to go to USA.
5. E's mother-in-law is the mother of C, who is the father of B and brother of H.
6. A is the grandfather of one of the male members, who goes to USA.
7. D is unmarried and the niece of C.
8. F is the oldest member of the family.

Who is the mother-in-law of E?

(A) G

(B) F

(C) A

(D) Cannot be determined

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25. The Chatterjee family has 8 members: A, B, C, D, E, F, G, H. There are 3 generations in the family. They go to 4 different countries: France, Canada, UK, and USA. They make 4 groups of 2 members each, and each group goes to one country. The family consists of 3 married couples, and each couple forms a group. The following conditions are given:

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7. D is unmarried and the niece of C.
8. F is the oldest member of the family.

Which of the following members will go to Canada?

(A) A and F

(B) C and F

(C) D and B

(D) A and G

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26. The Chatterjee family has 8 members: A, B, C, D, E, F, G, H. There are 3 generations in the family. They go to 4 different countries: France, Canada, UK, and USA. They make 4 groups of 2 members each, and each group goes to one country. The family consists of 3 married couples, and each couple forms a group. The following conditions are given:

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7. D is unmarried and the niece of C.
8. F is the oldest member of the family.

How many male members are there in the family?

(A) 3

(B) 5

(C) 4

(D) CBD

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27. The Chatterjee family has 8 members: A, B, C, D, E, F, G, H. There are 3 generations in the family. They go to 4 different countries: France, Canada, UK, and USA. They make 4 groups of 2 members each, and each group goes to one country. The family consists of 3 married couples, and each couple forms a group. The following conditions are given:

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6. A is the grandfather of one of the male members, who goes to USA.
7. D is unmarried and the niece of C.
8. F is the oldest member of the family.

How is D related to E?

(A) Daughter

(B) Niece

(C) Sister

(D) CBD

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28. An international NGO for homeless people has supplied certain items for ongoing winters to new shelters for homeless people. These consist of different items like blankets, jackets, shoes, socks, and room heaters. The total number of five items distributed in December 2024 was 3300.

- 24% of all items were blankets.
- $\frac{1}{6}$ of all items were jackets.
- 14% of all items were shoes.
- Remaining items were either socks or room heaters.
- The number of room heaters distributed was 100 more than the number of socks distributed.

What is the difference between the total number of socks and blankets distributed and the number of shoes distributed?

(A) 1022

(B) 1068

(C) 1025

(D) 1028

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29. The number of socks distributed is approximately what percent of the total number of shoes and room heaters put together?

(A) 59

(B) 63

(C) 55

(D) 51

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30. What is the total number of jackets, shoes, and room heaters distributed?

(A) 1810

(B) 1834

(C) 1850

(D) 1814

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31. Find the ratio between the number of room heaters and the number of shoes?

(A) 19:11

(B) 19:13

(C) 17:11

(D) 11:17
