

**B.Tech II-Year II- Semester External Examination, August-2024 (Regular)**  
**QUANTITATIVE APTITUDE AND LOGICAL REASONING(EEE,MECH and ECE)**

**Time: 3:00 Hours**

**Max.Marks:60**

**Note: Answer Any 60 Questions.**

**Student can solve more than 60 questions, but maximum 60 marks will be awarded.**

**Calculator's are not allowed.**

1. Today it is Thursday. After 132 days, it will be  
A. Monday      B. Sunday      C. Wednesday      D. Thursday
2. The average of ten numbers is 7. If each number is multiplied by 12, then the average of the remaining numbers will be  
A. 7      B. 84      C. 9      D. 87
3. The average of 50 members is 38. If the two numbers, 45 and 55 are discarded the average of the remaining numbers will become  
A. 36      B. 36.5      C. 37      D. 37.5
4. The average of a series is 25. If the series is split into two series, such that the average of one of the series is 15, then the average of the other series is:  
A) 12.5      B) 5      C) 10      D) Data Insufficient
5. If  $a:b = 5:9$  and  $b:c = 4:7$ , then the value of  $a:b:c$  will be:  
A) 10: 18:32      B) 2:3:7      C) 3:13:17      D) 20:36:63
6. If  $A:B:C = 2:3:4$ , then  $A/B:B/C:C/A$  will be equal to:  
A) 8: 9: 24      B) 12: 33: 23      C) 12: 23: 8      D) 8: 34: 7
7. If the ratio of the ages of Priya and Sunanda is 6:5 at present, and after fifteen years from now, the ratio will be changed to 9:8, then find the Priya's current age.  
A. 22 years      B. 30 years      C. 34 years      D. 38 years
8. P, Q, and R played cricket. P's runs are to Q's runs and Q's runs are to R's runs at 3:2. All of them scored a total of 342 runs. How many runs did P make?  
A. 140      B. 154      C. 168      D. 162
9. The third proportional to 16 and 36 will be:  
A) 9      B) 27      C) 45      D) 81
10. The L.C.M. of two numbers is 45 times their H.C.F. If one of the numbers is 125 and the sum of H.C.F. and L.C.M. is 1150, the other number is:  
A) 215      B) 220      C) 225      D) 235
11. A man divides Rs. 8600 among 5 sons, 4 daughters and 2 nephews. If each daughter receives four times as much as each nephew, and each son receives five times as much as each nephew, how much does each daughter receive?  
A) Rs. 800      B) Rs. 600      C) Rs. 1600      D) Rs. 1800
12. The H. C. F and L. C. M. of two numbers are 84 and 21 respectively. If the ratio of the two numbers is 1 : 4, then the larger of the two numbers is:  
A) 12      B) 48      C) 84      D) 108
13. What will be the percentage value of the ratio of 53/14?  
A. 378.57 %      B. 378.75 %      C. 380 %      D. 383 %
14. Sachin scored a century which included 3 fours and 8 sixes. As a result, what percent of his total score did Sachin score by running between the wickets?  
A. 40      B. 45      C. 50      D. 55

15. There were 75 people in the metro compartment. 36 % of them are children and the rest are adults. If 75 % of the adults are men, then how many women are there?  
A. 27                      B. 12                      C. 48                      D. 36
16. Instead of finding 50 % of the number, Mahesh finds 15 % and gets a value which is 140 less. Find this number.  
A. 280                      B. 400                      C. 80.5                      D. 200
17. In an election between two candidates, one get 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was?  
A) 2700                      B) 2900                      C) 3000                      D) 3100
18. Due to a 25% hike in the price of sugar, a person is able to purchase 20 kg less of sugar for Rs. 500. What was the initial price of sugar?  
A. Rs. 4                      B. Rs. 5                      C. Rs. 6                      D. Rs. 7
19. If the breadth of the rectangle is increased by 20 % and the length of the rectangle is decreased by 10 %, then what is the percent change increase in the area of the rectangle?  
A. 6 %                      B. 8 %                      C. 10 %                      D. 12 %
20. A tradesman sold an article at a loss of 20%. If the selling price had been increased by Rs. 100, there would have been a gain of 5%. What was the cost price of the article?  
A.380 rupees                      B.400 rupees                      C.480 rupees                      D.630 rupees
21. An uneducated retailer marks all his goods at 50% above the cost price and thinking that he will still make 25% profit, offers a discount of 25% on the marked price. What is his actual profit on the sales?  
A) 2%                      B) 12%                      C) 6.3%                      D) 12.5%
22. A dishonest dealer professes to sell his goods at cost price but uses a weight of 960 gms instead of a kg weight. Find the gain of this dishonest person in percent.  
A)  $5\frac{3}{4}\%$                       B) 4.167%                      C)  $5\frac{1}{6}\%$                       D) None Of These
23. The price of a house is decreased from Rupees Fifteen lakhs to Rupees Twelve lakhs. Find the percentage of decrease.  
A) 15%                      B) 20%                      C) 25%                      D) 30%
24. A scooty is sold for Rs. 13,600 and fetches a loss of 15%. Find the cost price of the scooty.  
A) 12000 Rs                      B) 14000 Rs                      C) 16000 Rs                      D) 18000 Rs
25. A man sells two wrist watches at Rs 594 each. On one he gains 10% and on the other, he loses 10%. Find his gain or loss percent on the whole.  
A) 1%                      B) 2%                      C) 3%                      D) Data is not sufficient
26. Steve Sells an article for 1200Rs And he makes a profit of 20% in the Transaction. So What is the Cost price?  
A) Rs. 500                      B) Rs. 1000                      C) Rs. 1500                      D) Rs. 2000
27. A man buys 8 pens for Rs 9 each. He sells 9 pens for Rs 8 each. Find the profit or loss percentage of the person?  
A) 21% profit                      B) 12% loss                      C) 13% profit                      D) 21% loss
28. Raju and Vicki decide to invest in a business. They decide to share the profit in the ratio of 2 : 3. If Raju has invested Rs. 40,000, then what is the investment of Vicki?  
A) Rs. 30,000                      B) Rs. 45,000                      C) Rs. 60,000                      D) Rs. 75,000
29. Khan and Yawer start a business investing Rs. 169000 and Rs. 130000 respectively. In what ratio should we divide the profit that each of the partners can have?  
A) 12 : 13                      B) 13 : 10                      C) 13 : 31                      D) None of these
30. Today the ratio of the ages of Desai and Shinde is 4:3. Six years hence, Desai's age will be 26 years. How old is Shinde today?

- A) 10 years      B) 15 years      C) 20 years      D) 25 years
31. A father and his son decide to sum their age. The sum is equal to sixty years. Six years ago the age of the father was five times the age of the son. Six years from now the son's age will be:  
A) 23 years      B) 19 years      C) 20 years      D) 22 years
32. A does 80% of a work in 20 days. He then calls in B and they together finish the remaining work in 3 days. How long B alone would take to do the whole work?  
A) 37 (1/2)      B) 36      C) 39 (1/2)      D) 40
33. Two persons A and B together can do a piece of work in 8 days. A alone does the same work in 12 days. Then if B alone works, he can do the same work in?  
A) 100 days      B) 33.33 days      C) 24 days      D) 80 days
34. A and B together can do a job in 4 days. If A can do a job in 12 days if he works alone, then how many days B alone take to complete the job?  
A) 6 days      B) 8 days      C) 10 days      D) 10 days
35. Twenty women can do a work in sixteen days. Sixteen men can complete the same work in fifteen days. What is the ratio between the capacity of a man and a woman?  
A) 4: 7      B) 7: 3      C) 4: 3      D) 3: 7
36. A can finish a work in 18 days and B can do the same work in half the time taken by A. Then, working together, what part of the same work they can finish in a day?  
A) 1/6      B) 1/9      C) 2/5      D) 2/7
37. A person travels from P to Q at a speed of 40 km/h and returns by increasing his speed by 50%. What is his average speed for both the trips?  
A) 34 km/h      B) 44 km/hr      C) 48 km/hr      D) 52 km/hr
38. A man performs 3/5 of the total journey by rail, 17/20 by bus and the remaining 6.5 km on foot. His total journey is:  
A) 65 km      B) 100 km      C) 120 km      D) 130 km
39. A man took a loan from a bank at the rate of 12 % p.a. simple interest. After three years he had to pay Rs. 5400 interest only for the period. The principal amount borrowed by him was:  
A) Rs. 12000      B) Rs. 11000      C) Rs. 14000      D) Rs. 15000
40. A sum of Rs 1600 gives a simple interest of Rs 252 in 2 years and 4 months. The rate of interest per annum is:  
A) 6%      B) 6(1/4) %      C) 6(1/2)%      D) 6(3/4)%
41. In a certain code, TRIPPLE is written as SQHOOKD. How is DISPOSE written in that code?  
(a) CHRONRD      (b) DSOESPI      (c) ESJTPTF      (d) ESOPSID
42. In a certain code, MONKEY is written as XDJMNL. How is TIGER written in that code?  
(a) QDFHS      (b) SDFHS      (c) SHFDQ      (d) UJHFS
43. Which is the 11th letter to the left of the 4th letter from the right when you write the English alphabets in backward order?  
A. P      B. Q      C. O      D. N
44. A person started counting on his fingers of the left hand. The thumb was 1, the index finger 2, middle finger 3, and so on up to the little finger. He then reversed direction calling the ring finger 6, middle finger 7 and so on. Then he counts up to 1024. His counting ended on which finger?  
A. Ring finger      B. Middle finger      C. Index finger      D. Thumb
45. In a group of cows and hens, the number of legs is 14 more than twice the number of heads. The number of cows is?  
(a) 5      (b) 7      (c) 10      (d) 12
46. Reena is twice as old as Sunita. Three years ago, she was three times as old as Sunita. How old is Reena now?  
(a) 6 years      (b) 7 years      (c) 8 years      (d) 12 years

47. What was the day on 10th August 1947?  
A. Saturday      B. Sunday      C. Monday      D. Tuesday
48. When do the hands of the clock are opposite to each other between 4'O clock and 5'O clock?  
A) 33(6/11) over 4'O clock      B) 54 (6/11) over 4'O clock  
C) 44(6/11) over 4'O clock      D) 64 (6/11) over 4'O clock
49. How many times do the hands of a clock are perpendicular to each other in a single day?  
A) 24      B) 32      C) 42      D) 44
50. The reflex angle between the hands of the clock at 10:25 AM is  
A.  $180^\circ$       B.  $185^\circ$       C.  $150^\circ$       D.  $197\frac{1}{2}^\circ$
51. If in a code, A L T E R E D is written as Z O G V I V W, then in the same code, R E L A T E D would be written as  
(a) I V O Z G V W      (b) L V O Z G W V      (c) I V O G Z V W      (d) V I O Z G V W
52. In a certain code, the number 12345 is coded as 36936. What will be the code for the number 99325?  
a) 99966      b) 33965      c) 78356      d) 37649
53. If D is coded as 4 and C O V E R is coded as 63, then BASIS will be coded as?  
a) 49      b) 50      c) 54      d) 55
54. If M A S T E R is coded as 411259, then P O W D E R will be coded as?  
a) 7 65439      b) 765439      c) 7 65459      d) 7 65549
55. In a certain code, COMPUTER is written as RFUVQNPC. How is MEDICINE written in the same code?  
a) EOJDJEFM      (b) EOJDEJFM      (c) MFEJDJOE      (d) MFEDJJOE
56. If A means 'plus', B means 'minus', C means 'divided by' and D means 'multiplied by', then  $18 A 12 C 6 D 2 B 5 = ?$   
(a) 15      (b) 25      (c) 27      (d) None
57. In the following space, a sequence of alphabets is present, one of them is wrongly put. Find the wrong one and select it from the options below:  
a) Q, T, X, C      b) F, P, Z, J      c) W, U, R, N      d) A, L, W, Z
58. What is the next term in the series: SCD, TEF, UGH, \_\_\_\_?  
A) VIJ      B) VUK      C) IJK      D) JIV
59. \_ aa \_ ba \_ bb \_ ab \_ aab  
A) aaabb      B) babab      C) bbaab      D) bbbaa
60. Which number would replace question mark in the series 7, 12, 19, ?, 39.  
(a) 29      (b) 28      (c) 26      (d) 24
61. Which term comes next in the sequence: nd iy dt yo tj ?  
(a) mp      (b) nq      (c) of      (d) oe
62. If Rashmi is taller than Manisha, Manisha is taller than Priyanka, Sugandha is taller than Rashmi. Harsha is shorter than Priyanka; who among these girls is the tallest?  
A. Rashmi      B. Manisha      C. Sugandha      D. Priyanka
63. CDEF : MNOP :: UVWX:?

A. DEFG

B.EFGH

C. GHIJ

D. ABCD

64. Complete the analogy:  $144 : 23 :: 169 : \underline{\hspace{2cm}}$   
 A.32                      B.24                      C.25                      D.26
65.  $23 : 506$  what  $12 : \underline{\hspace{2cm}}$   
 A.132                      B.123                      C.321                      D.312
66.  $P \times Q$  means P is the sister of Q ;  $P + Q$  means P is the father of Q ;  $P - Q$  means P is the mother of Q.  
 Which of the following means S is the aunt of T?  
 A)  $T \times M + S$                       B)  $S + T \times M$                       C)  $S \times M + T$                       D)  $S \times M + R - T$
67. ' $A + B$ ' means 'A is the daughter of B'; ' $A \times B$ ' means 'A is the son of B' and ' $A - B$ ' means 'A is the wife of B'. If ' $T - S \times B - M$ ', which of the following is not true?  
 a. M is the husband of B                      b.T is the wife of S  
 c.S is the daughter of B                      d.S is the son of B
68. Pointing to a photograph Afreen said, "This man's son's sister is my mother-in-law." How is her husband related to the man in the photograph?  
 A.Son                      B.Nephew                      C.Grandson                      D.Son-in-law
69. Select the one which is different from the other three alternatives.  
 A.114, 57                      B.38, 144                      C.95, 152                      D.76, 133
70. In the figure different positions of X, Y and Z is given. Which is the number at the bottom of the figure Y? (26)



(X)



(Y)



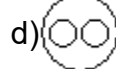
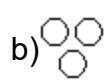
(Z)

- a. 2                      b. 3                      c. 5                      d. Cannot be determined

**(71-73)** Choose the correct alternative from the following options as given below for the Assertion (A) and Reason (R), given in each of the questions.

- a) Both (A) and (R) are true and (R) is the correct explanation of (A).  
 b) (A) is true but (R) is false.  
 c) (A) is false but (R) is true.  
 d) Both (A) and (R) are true but (R) is not the correct explanation of (A).  
 e) Both (A) and (R) are false.

71. Assertion (A) : When common salt is kept open, it absorbs moisture from the air.  
 Reason(R) : Common salt contains magnesium chloride.
72. Assertion (A): We prefer to wear white clothes in winter.  
 Reason(R): White clothes are good reflectors of heat
73. Assertion (A): Mercury is the farthest planet from the sun.  
 Reason(R): Mercury is the smallest planet in the entire solar system
74. Which of the following diagrams indicates the best relation between Travelers, Train and Bus ?



**(75-77)** Each problem consists of a problem followed by two statements. Decide whether data in the statements are sufficient to answer the question. Select your answer according to whether:  
 (a) statement 1 alone is sufficient, but statement 2 alone is not sufficient to answer the question  
 (b) statement 2 alone is sufficient, but statement 1 alone is not sufficient to answer the question  
 (c) both statements taken together are sufficient to answer the question, but neither statement alone is sufficient  
 (d) Each statement alone is sufficient  
 (e) Statements 1 and 2 together are not sufficient, and additional data is needed to answer the question

75.

If  $x < 0$ , is  $y > 0$ ?

I:  $x/y < 0$                       II:  $y - x > 0$

76.

If  $n$  is positive integer, is  $150/n$  an integer?

I:  $n < 7$                       II:  $n$  is a prime number

77.

Is the integer  $k$  is divisible by 40?

I: 8 is a factor of  $k$       II:  $k$  is a factor of 10

78

**Statements :** No fan is shirt. All shirts are trousers.

**Conclusions :** I. All fans are trousers. II. No fan is trouser. III. Some trousers are shirts. IV. All trousers are shirts.  
 (a). Only I    (b). Either I or II    (c). Only II    (d). Only I, III. & IV    (e). None of these

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**Statements :** Some coolers are watches. No watch is bed.

**Conclusions :** I. No watch is cooler. II. No cooler is watch III. Some watches are beds. IV. Some coolers are beds  
 (a). Only I & III  
 (b). Either I or II    (c). Only III    (d). Only I, III. & IV    (e). None follows

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**Statements :** All seas are bees. Some teas are bees

**Conclusions :** I. All teas are seas    II. Some seas are teas.  
 (a). Only I    (b). Only II    (c). Either I or II    (d). Neither I nor II    (e). Both I & II follows

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