

Date of Examination:	08.07.2023	Time:	2 Hrs
Name of the Post:	Junior Technician (Mechanical) - Level 1 Written Test		

Name of the Candidate:											
Application No:											

\_\_\_\_\_  
Candidate's Signature

\_\_\_\_\_  
Invigilator's Signature

### Instructions to the Candidate:

1. This booklet consists of 80 questions. Please check that this Question Booklet does not have any missing or torn pages or items, if so get it replaced by another Question Booklet.
2. A separate OMR Sheet is given. It should not be folded or mutilated. No additional OMR Sheet shall be provided.
3. Use only Black Ball point pen for filling all particulars of Question Booklet and OMR Sheet as well as to darken the circle of the Response in the OMR Sheet.
4. This Question Booklet contains 80 Multiple Choice Questions, and each question is followed by four alternative answer options namely a, b, c and d out of which only one option is correct. You need to darken the most appropriate correct circle of the OMR Sheet by black ball point pen.
5. For each question, darken only one circle on the Response Evaluation Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect. Cutting, Alterations/ Correction are not permitted. Answer once darkened cannot be changed in the OMR sheet. If you do not wish to attempt a question, leave all the circles in corresponding row blank and in such condition zero marks will be awarded for that question.
6. Every correct answer will be awarded **1¼ mark** and **0.3125 marks** will be deducted for each of the wrong answer. No marks are assigned for questions not attempted.
7. Use of Electronic Gazettes, Pager, Mobile Phone, Calculator etc. are strictly prohibited. Use of Unfair means will lead to cancelation of candidature. Do not carry any loose paper.
8. The blank spaces and the blank page at the end of this Booklet can be used for Rough Work.
9. Strictly adhere to appropriate discipline during examination and you are not permitted to leave the Examination Hall until the end of the test.
10. Return the Question Booklet and OMR Sheet to the Invigilator after completion of examination.

- 1 The LCM of two numbers is 45 times their HCF. If one of the numbers is 125 and the sum of HCF and LCM is 1150, the other number is  
 A) 215                      B) 220                      C) 225                      D) 235
- 2 The difference of  $1\frac{3}{16}$  and its reciprocal is equal to  
 A)  $\frac{9}{8}$                       B)  $\frac{4}{3}$                       C)  $\frac{15}{16}$                       D) None of these
- 3 The average of six numbers is 3.95. The average of two of them is 3.4 and another two of them is 3.85. The average of remaining two numbers is  
 A) 4.5                      B) 4.6                      C) 3.8                      D) 4.0
- 4 If  $\sqrt{2^n} = 64$ , then the value of n is  
 (A) 2                      (B) 6                      (C) 12                      (D) 16
- 5 How many pairs of letters are there in the word 'MATHEMATICIAN' each of which has as many letters between them in the word as in the English alphabet?  
 (A) None                      (B) One                      (C) Two                      (D) Three
- 6 Fill in the blank with appropriate word in the following sentence:  
 "There was no \_\_\_\_\_ in the railway compartment for additional passengers."  
 A) place                      B) space                      C) seat                      D) room
- 7 In a base b number system, the number  $207_b$  is the square of the number  $14_b$ . Which of the following is the value of b?  
 A) 8                      B) 9                      C) 10                      D) 12
- 8 A speaks truth in 75% cases and B in 80% of times. The probability that they contradict each other while narrating a same incident is  
 A)  $\frac{7}{20}$                       B)  $\frac{1}{20}$                       C)  $\frac{7}{10}$                       D)  $\frac{1}{10}$
- 9 The age of a man is three times the sum of the ages of his two sons. Five years from now, the age of the man will be double the sum of the ages of his sons. What is age of the elder child?  
 A) 15 years                      B) 10 years                      C) 20 years                      D) Cannot be determined
- 10 A man on tour travels first 160 km at a speed of 64 kmph and the next 160 km at 80 kmph. The average speed for his tour of 320 km is  
 A) 70 kmph                      B) 71.11 kmph                      C) 71.22 kmph                      D) 72 kmph
- 11 The missing number in the series 4, 7, 11, 18, 29, 47, \_\_\_\_, 123, 199, ... is  
 (A) 67                      (B) 74                      (C) 76                      (D) 84
- 12 From a pack of cards, one card is drawn. The probability that it is a King or a Red card is  
 A)  $\frac{15}{26}$                       B)  $\frac{14}{26}$                       C)  $\frac{7}{13}$                       D)  $\frac{8}{13}$
- 13 Choose the phrase from the options to complete the statement which is grammatically correct

The decoration of the new house, including the furniture and curtains \_\_\_\_\_

- (A) is more pleasing (B) are more pleasing  
(C) is most pleasing (D) are pleasing

**Questions 14 to 16 are based on the following:**

In a family of six persons, there are two couples. Lawyer is the head of the family and has two children and both of them are teachers. Mrs. Reena and her mother-in-law are both lawyers. Lawyer's daughter-in-law is a doctor and has a son Ajay.

- 14 Which of the following is definitely a couple?  
(A) Doctor – Lawyer (B) Lawyer – Teacher  
(C) Teacher – Teacher (D) None of these
- 15 The number of doctors in the family is  
(A) 1 (B) 2 (C) 1 or 2 (D) None of these
- 16 How is Ajay related to Mrs. Reena?  
(A) Son (B) Grandson (C) Nephew (D) None of these
- 17 The product of the two binary numbers 10111 and 1110, written in hexadecimal format is  
(A) 150 (B) 14C (C) 142 (D) 13E
- 18 In the IPL cricket matches 2023, Chennai Super Kings was the winning team. Which of the following were runners up in these matches?  
A) Rajasthan Royals B) Mumbai Indians  
C) Gujarat Titans D) Royal Challengers
- 19 The odd man in the series 19, 28, 39, 52, 67, 84, 102 is  
A) 19 B) 39 C) 67 D) 102
- 20 Complete the series 2, 5, 9, 19, 37, \_\_\_\_\_  
A) 74 B) 75 C) 76 D) None of these
- 21 How many words can be formed by using all the letters of the word "ALLAHABAD"?  
A) 3780 B) 1890 C) 7560 D) None of these
- 22 Choose the word that best expresses the meaning of the idiom "A close shave"  
A) A clean shave B) A narrow escape  
C) A guarded secret D) A sudden fall
- 23 Which of the following is not an Operating System?  
(A) Linux (B) OS/2 (C) DB2 (D) ANDROID
- 24 International Women's day is celebrated on which of the following dates?  
A) 8<sup>th</sup> April B) 15<sup>th</sup> April C) 8<sup>th</sup> March D) 15<sup>th</sup> April
- 25 Let  $a_{(x)}$  be the number a in base x. If  $1234_{(x)} = 466_{(10)}$ , then the value of x is

- (A) 4                      (B) 6                      (C) 7                      (D) None of these
- 26 Two-thirds of a consignment was sold at a profit of 5% and the remaining one-third was sold at a loss of 2%. If the total profit on the entire consignment is Rs. 400, the value of the entire consignment in Rs. is  
 (A) 10000                      (B) 12000                      (C) 15000                      (D) 18000
- 27 In the number series 61, 52, 63, \_\_\_\_, 46, 18, which of the following number should be in the position of blank?  
 A) 54                      B) 86                      C) 49                      D) 94
- 28 Four persons are chosen at random from a group of 3 men, 2 women and 4 children. The probability that exactly 2 of them are children is  
 A) 1/9                      B) 1/5                      C) 5/21                      D) 10/21
- 29 If the fourth day after 6<sup>th</sup> January in a year is a Saturday, then the day on 1<sup>st</sup> December of the previous year is  
 A) Thursday                      B) Friday                      C) Saturday                      D) Sunday
- 30 Fill in the blank with appropriate phrase from among the choices  
 Priya got up late in the morning. She \_\_\_\_\_ to set her alarm clock.  
 (A) had forgotten                      (B) forgot                      (C) forgotten                      (D) had forgot
- 31 A is eleven times older than B. In a certain number of years, A will be 5 times as old as B and 5 years after that A will be three times as old as B. The ages of A and B now are  
 A) 44, 4                      B) 55, 5                      C) 22, 2                      D) 33, 3
- 32 The charges of a hired cab are Rs. 12 per km for the first 60 km, Rs. 15 per km for the next 60 km and Rs. 40 for every 5 km for further journey. If the balance amount left over with the traveller is one-fourth of what he paid towards the charges of the hired cab for travelling 320 km, the amount of money that the traveller initially had with him is  
 A) Rs. 3225                      B) Rs. 3525                      C) Rs. 3825                      D) Rs. 4025
- 33 Two persons have attended an interview and their chances of getting selected are 1/5 and 1/7. The chances of only one of them getting selected is  
 (A) 4/5                      (B) 6/7                      (C) 24/35                      (D) 2/7
- 34 A certain number of persons can complete a work in 100 day. If there were 10 persons less, it would take 10 days more to complete the same work. How many persons were there originally?  
 A) 80                      B) 86                      C) 100                      D) 110
- 35 The number of six-digit binary numbers that begin and end with the same digit is  
 A) 2<sup>6</sup>                      B) 2<sup>5</sup>                      C) 2<sup>4</sup>                      D) None of these
- 36 Find the missing element in the series  
 A, CD, GHI, \_\_\_\_\_, UVWXY

A) MNOP                      B) NOPQ                      C) LMNO                      D) OPQR

37 A doctor told to his compounder that he will see the patients at their residence every 3 hours 30 minutes, his recent visit was 1 hour 20 minutes ago and the next one will be at 1.40 PM. At what time did the doctor gave this information to the compounder?

A) 11.30 AM                      B) 10.10AM                      C) 11.20AM                      D) None of these

38 October 2<sup>nd</sup> is celebrated as Gandhi Jayanti. Which of the following persons was also born on the same day

A) Netaji Subash Chandra Bose                      B) Raja Ram Mohan Roy  
C) C V Raman                      D) Lal Bahadur Sastry

39 Arrange the following words to form a meaningful sentence

P: tea      Q: have      R: that      S: some      T: before

(A) QRPTS      (B) QSPTR      (C) TRSPQ      (D) TRSQP

40 Out of the alternatives, choose the appropriate phrase to make the sentence meaningful

If you had joint accounts with \_\_\_\_\_ who died, then you will be responsible for the bills.

A) everybody                      B) anyone                      C) everyone                      D) someone

41 The number of four-digit numbers that can be formed using the digits 0, 1, 2, 3, 4, 5, 6 without repetition of digits is

(A) 840                      (B) 210                      (C) 720                      (D) 120

42 To determine precisely the ratio of the ages of Arna and her mother, which of the following are necessary?

I. The sum of ages of Arna, her mother and her father is 62

II. Five years ago, Arna's age was one-fifth of her father's age

III. Two years ago, the sum of the ages ago Arna and her father was 36.

A) I and II only                      B) I and III only                      C) II and III only                      D) I, II and III

43 A man invested Rs. 1552 in a stock at Rs. 97 to obtain an income of Rs. 128. The dividend from the stock is

A) 7.5%                      B) 8%                      C) 9.7%                      D) None of these

44 In how many ways can a group of 5 men and 2 women be made out of a total 7 men and 3 women?

A) 63                      B) 90                      C) 126                      D) 45

**Questions 45 to 47 are based on the following:**

There are seven friends A, B, C, D, E, F and G in a seven-floor building. The ground floor is numbered 1; the floor above it is 2 and so on. E does not live on an even numbered floor. G

does not live on the topmost floor. Only one person lives between E and G. A does not live on even numbered floor and does not live below F. D does not live immediately above or immediately below G. There are two floors between D and E. Both B and C live on even-numbered floor. G and C live in adjacent two floors. F lives on floor number 5.

- 45 In the given options find the person who lives in 3rd floor?  
(A) B (B) D (C) C (D) E
- 46 How many persons live between E and G?  
(A) 0 (B) 1 (C) 2 (D) 3
- 47 Which of the following occupy top and bottom floors?  
(A) AG (B) AB (C) BG (D) AD
- 48 Choose an appropriate option to replace the phrase in bold letters in the sentence to make it correct  
The bank has hired a consultant who **will look into** any issue which arise out of merger.  
A) is looking over (B) will be looked over  
C) will look out (D) No correction is needed in the sentence
- 49 Octal equivalent of hexadecimal number 4DF is  
A) 1337 (B) 2337 (C) 2773 (D) 1773
- 50 ICC world cup cricket matches in 2023 are hosted by which of the following countries  
A) India (B) India and Sri Lanka  
C) Australia (D) Australia and New Zealand
- 51 A, B, C, D are four integers. Products of AB, BC, CD, BD are respectively 24, 24, 32 and 16. The product of ABCD is  
A) 1024 (B) 768 (C) 512 (D) 384
- 52 Three pipes can fill a tank with uniform flow. The first two pipes operating simultaneously can fill the tank in the same time during which the tank can be filled by the third pipe alone. The second pipe fills the tank 5 hours faster than the first and 4 hours slower than the third pipe. The time required for the first pipe to fill the tank is  
A) 6 hours (B) 10 hours (C) 15 hours (D) 20 hours
- 53 Which of the numbers in the series 3, 8, 15, 24, 34, 48, 63 that does not follow the pattern followed by other numbers in the series  
A) 15 (B) 34 (C) 48 (D) 63
- 54 How many three-digit numbers can be formed using the digits 2, 3, 4, 5, 6, 7, 8, 9  
A) 30 (B) 42 (C) 21 (D) 72
- 55 In the ranking of students in a class, the position of a student Raju is 5<sup>th</sup> from top and the position of Ramani is 7<sup>th</sup> from the bottom. Another student Ravi is in 6<sup>th</sup> place after Raju and 6<sup>th</sup> place before Ramani. The total number of students in the class is  
(A) 26 (B) 24 (C) 22 (D) 20

- 56 First six numbers in a sequence are 1, 2, 3, 6, 11, 20. The tenth number in the sequence is  
 (A) 125 (B) 140 (C) 230 (D) 245
- 57 My brother is 3 years elder to me. My father was 28 years of age when my sister was born while my mother was 26 years of age when I was born. If my sister was 4 years of age when my brother was born, then, what was the age of my father and mother respectively when my brother was born?  
 (A) 32 years, 29 years (B) 30 years, 23 years  
 (C) 32 years, 23 years (D) 35 years, 29 years
- 58 In the alphabet series **bc – b – c – b – ccb**, which is repeating after certain number of alphabets, some of the letters are missing, which of the following, in order, is the correct choice?  
 (A) cbc (B) bbcb (C) cbbc (D) bcbc
- 59 Which of the following helps the user in locating information over internet?  
 A) http B) https C) www D) URL
- 60 A Nibble in computer terminology is  
 A) One bit B) Two bits C) Four bits D) Eight bits
- 61 River Ganga is the longest river in India. Which of the following is the second longest river in India?  
 A) Krishna B) Brahmaputra C) Godavari D) Yamuna
- 62 In an analog clock, how many times in a day, are the hands perpendicular to each other?  
 A) 11 B) 12 C) 22 D) 24
- 63 8% of the people eligible to vote are between 18 and 21 years of age. In an election, 85% of the eligible voters between 18 and 21 years of age have actually voted. The ratio of voters between 18 and 21 years of age, who actually voted to the eligible voters in that election, expressed as a percentage is  
 A) 4.2 B) 6.4 C) 6.8 D) 7.2
- 64 The sum of three consecutive multiples of 3 is 72. The largest of the three numbers is  
 I. Square II. Cube  
 A) I but not II B) II but not I C) I and II D) Neither I nor II

**Questions 65 to 69 are based on the following:**

Nine friends L, M, N, O, P, Q, R, S and T are sitting around a circle facing the center. T sits 5th to the right of R. N is not an immediate neighbour of either R or T. M sits between

S and P. N sits 4th to the left of P. O sits 2nd to the right of Q. S is not an immediate neighbour of T.

- 65 If all the nine friends are made to sit alphabetically in the clockwise direction starting from L, positions of how many will remain unchanged (excluding L)?  
A) 2                      B) 3                      C) 1                      D) None
- 66 Who is 2nd to the right of M?  
A) R                      B) T                      C) L                      D) P
- 67 Who is to the immediate left of L?  
A) M                      B) S                      C) P                      D) None of these
- 68 Which of the following is O's position with respect to M in the anti-clock wise direction starting from M?  
A) Fifth to the right    B) Fourth to the left  
C) Third to the left    D) Fourth to the right
- 69 Three of the following pair are alike in a certain way based on their seating positions in the above arrangement and so form a group. Find the odd man out?  
A) LP      B) LN                      C) QO                      D) TS
- 70 The meaning of the phrase "A dog's breakfast" is  
A) breakfast cooked for dogs    B) A breakfast cooked by dogs  
C) Something that has been done very badly                      D) None of these
- 71 Let N be the greatest number that divides the numbers 1305, 4665 and 6905, leaving the same remainder in each case. The sum of the digits in the number N is  
A) 4                      B) 7                      C) 9                      D) 13
- 72 To determine the sum of two numbers, which of the following are necessary?  
I. The bigger number is greater than the smaller number by 6  
II. 40% of the smaller number is equal to 30% of larger number.  
III. The ratio between half of bigger number and one-third of smaller number is 2 : 1.  
A) I and II only                      B) I and III only                      C) I, II and III                      D) None of these
- 73 A lady has used only Rs 4 and Rs 7 stamps to fix on an envelope requiring postage of Rs. 50. If x is the number of Rs 4 stamps and y is the number of Rs 7 stamps, she had used which of the following statement must be true  
(A)  $x < y$                       (B)  $x = y$                       (C)  $x > y$                       (D) Not possible to decide
- 74 If A is coded as -, B is coded as +, C is coded as \* and D is coded as / then the value of the value of the following expression is  
8 A 5 B 1 C 35 D 5 C 3



(A) 28.6                      (B) 24                      (C) 30.6                      (D) None of these

75 Choose suitable proposition for the blank to make a meaningful sentence

Suresh is angry \_\_\_\_\_ his servant.

A) about                      B) on                      C) by                      D) with

76 A temporary storage area, attached to the CPU, for I/O operation is a

(A) buffer                      (B) channel                      (C) register                      (D) flip-flop

77 RSVP is an initialism, literally meaning "Respond if you please". The original phrase is derived from which of the following languages?

A) French                      B) English                      C) German                      D) Italian

78 To determine a two-digit number, which of the following is/are necessary?

I. Sum of the digits is 7

II. Difference between the number and the number obtained by reversing the digits, is 9

III. Product of the digits is 12

A) I and II only                      B) I and III only                      C) II and III only                      D) None of these

79 A man borrowed a total sum of Rs. 24000 from two money lenders. For one loan, he paid an interest at 7.5% per annum and for the other he paid at 9%. To determine how much money he had taken from each of the lenders, which of the following additional information is/are necessary?

I. The total interest paid after one year was Rs. 2025

II. The interest paid to one lender is twice the interest paid to the other.

A) I only                      B) II only                      C) I or II                      D) Both I and II

80 A rectangular parking area is painted on three sides and the length of painted and unpainted sides is respectively 37 mts and 9 mts. The area of parking space in sq. mts is

A) 333                      B) 252                      C) 216                      D) 126

**SPACE FOR ROUGH WORK**

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