

Another Tata Consultancy Services (TCS) - March 2007 - Latest Placement Paper

Category (Placement Paper or Interview Experience): Placement Paper

Date Conducted: 7 Mar 2007

Paper/Interview:

This is a TCS PAPER which took place ON 7th MARCH, 2007

1. What is the largest prime number stored in a—

- a) 6 bit pattern (ANS $\sim 2^6=64$, So no is 61)
- b) 7 bit pattern (ANS $\sim 2^7=128$, So no is 127)
- c) 8 bit pattern (ANS $\sim 2^8=256$, So no is 251)
- d) 9 bit pattern (ANS $\sim 2^9=512$, So no is 503)

2. What is the max 3 digit Prime no? (ANS=997)

3. If $G(0) = -1$, $G(1) = 1$, $G(N) = G(N-1) - G(N-2)$, then find—

- a) $G(2) = ?$ (ANS = 2)
- b) $G(3) = ?$ (ANS = 1)
- c) $G(4) = ?$ (ANS = -1)
- d) $G(5) = ?$ (ANS = -2)
- e) $G(6) = ?$ (ANS = -1)

[HINT \sim REMEMBER THE QUESTION & THE RIGHT ANS. THIS PROB REQD TIME TO SOLVE. QUESTION IS REPEATED BY SAME DATA MAX TIME.]

4. If $g(1) = -1$ & $g(0) = 1$ & $g(n) = (3 * g(n-1)) + (2 * g(n-2))$ then find $g(4)$?

5. Which is not a TRIANGLE—

- # a) (2m, 3m, 4m) b) (3m, 4m, 7m) c) (3m, 5m, 9m)

[HINT \sim SUMMATION OF 2 SIDES > 3RD SIDE.]

- # a) (30', 60', 80') b) (40', 60', 50') c) (60', 30', 90')

[HINT \sim SUMMATION OF 3 ANGLES = 180 DEGREE]

6. Which is the exact power of—

- # Two - Choice : a) 2048 b) 2068 c) 2668 d) 2408 [ANS = 2048]

[HINT \sim CHECK THE NO IS DIVISIBLE BY $2^1, 2^2, 2^3$ & SO ON]

- # Three - Choice : a) 2768 b) 2678 c) 2187 d) none of these [ANS = 2187]

- # Four - Choice : a) 4192 b) 2340 c) 4096 [ANS = 4096]

[HINT \sim SIMILAR WAY]

7. Complete the series—

a)3,8,a,24,b,48,63 [ANS~ a=15, b=35]

[HINT~DIFFERENCE IS 5,7,9,11,13,15]

b)26,19,17,13,11, ,8,7 [ANS=9]

[HINT~26,17,11,8 DECREASING LIKE 9,6,3 & 19,13,9,7 DECREASING

LIKE 6,4,2]

c)9,10,11,13,15, ,21,28 [ANS=19]

[HINT~9,11,15,21 INCREASING LIKE 2,4,6 & 10,13,19,28 INCREASING

LIKE 3,6,9]

e) 4, -5, 11, -14, 22, --- [ANS= -27]

[HINT~]

8.CODING & DECODING—

a)QJFBTF=PLEASE then HBJO=? [ANS=GAIN (PREVIOUS LETTER)]

b)TAFJHH=RBEKGI then RBDJK=? [ANS=PCCKJ (PREVIOUS+ AFFTER LETTER)]

c)TUBUJPO=STATION then FILTER=? [ANS=SIMILAR TYPE]

9.Interchange 1st & 2nd ,3rd & 4th , and so on, of the words “UNIMPRESSIVE” & then find 10th letter a)to the left

b)from the left [ANS= a) M, b) S]

[SIMILAR WORDS=ORGANISATIONAL,SIMULTANEOUSLY]

10.How many V's are there under the condition that, S should be followed by V & should not be followed by F.Sequence is=>VSFTWELBVSLLKSMVFLSDI...like that

11.Select odd one out—

a)SQL Server,Ingress,Oracle,DB2,Java [ANS=Java]

b)SMTP,ARP,WAP,HTTP,BAAN [ANS=BAAN]

c)Sybase,Windows NT,Linux,mvs,Java [ANS=Java]

d)Smalltalk,Eiffel,Lisp,Java [ANS=Java(NOT SURE)]

e)SQL,DB2,SYBASE,HTTP [ANS=HTTP]

f)SMTP,WAP,SAP,ARP [ANS=SAP]

g)Oracle,Linux,Ingress,DB2 [ANS=LINUX]

h)Linux,Unix,Solaris,SQL Server [ANS=SQL Server]

12.Find the value of—

a) @@+25-++@16, where @ denotes "square" & + denotes "square root". [ANS=621]

b) $6 \times 6 \times 6$, where \times means "tripling" & \times means "change of sign". [ANS= -72]

c) $6 \times 6 + 6 \times 6$, \times means "doubling" & \times means "reciprocal".

[HINT~FIRST CHOOSE GENERAL SYMBOL(LIKE "-" IN 1ST PROBLEM) &

THEN MOVE FROM RIGHT TO LEFT]

13.a)The no 362 in decimal system is given by 1362 in the X system of numbers.Find

X=? [ANS=6]

b)In which base of system,decimal no 194 is equal to 1234?

OR $(194)_{10} = (1234)_X$ Find X=? [ANS=BASE 5]

[HINT= $X^3 \cdot 1 + X^2 \cdot 2 + X^1 \cdot 3 + X^0 \cdot 4 = 194$, or $X^3 + 2X^2 + 3X = 190$, or $X = 5$]

14.In a two-dimensional array, X (9, 7), with each element occupying 4 bytes of memory, with the address of the first element X (1, 1) is 3000, find the address of X (8, 5). [ANS= 3212] [HINT~ Formula=Base Add + Byte reqd{N(i-1)+(j-1)}

where, Base Add=3000; Byte reqd=4; N=no of coulums in array=7; i=8; j=5;

IN ROW MAJOR ORDER]

15.

16.A Flight takes off at 2 A.M from northeast direction and travels for 11 hours to reach the destination which is in north west direction.Given the latitude and longitude of source and destination. Find the local time of destination when the

flight reaches there? [ANS: 1:00 P.M] [HINT~THIS PROB CAN NOT BE SOLVED AS THE latitude and longitude ARE NOT GIVEN.SO ANS IS LIKE (2 A.M. +11 hr)]

17. My flight takes of at 2am from a place at 18N 10E and landed 10 Hrs later at a place with coordinates 36N70W. What is the local time when my plane landed.

a) 6:00 am b) 6:40am c) 7:40 d) 7:00 e) 8:00 (Hint : Every 1 deg longitude is equal to 4 minutes . If west to east add time else subtract time) ANS: (E) 8:00

18. The size of a program is N. And the memory occupied by the program is given by $M = \text{square root of } 100N$. If the size of the program is increased by 1% then how much memory now occupied?

19.A man, a woman, and a child can do a piece of work in 6 days. Man only can do it in 24 days. Woman can do it in 16 days and in how many days child can do the same work? ANS:16

20.Number of faces, vertices and edges of a cube ANS:6,8,12

21. Find the result of the following _expression if, M denotes modulus operation, R denotes round-off, T denotes truncation:

$M(373,5) + R(3.4) + T(7.7) + R(5)$.Cool ANS:19

22. A power unit is there by the bank of the river of 750 meters width. A cable is made from power unit to power a plant opposite to that of the river and 1500mts away from the power unit. The cost of the cable below water is Rs. 15/- per meter and cost of cable on the bank is Rs.12/- per meter. Find the total of laying the cable.
ANS:20250

23. In Madras , temperature at noon varies according to $-t^2/2 + 8t + 3$, where t is elapsed time. Find how much temperature more or less in 4pm to 9pm. ANS: 385.8(DB)

24. The size of the bucket is N kb. The bucket fills at the rate of 0.1 kb per millisecond. A programmer sends a program to receiver. There it waits for 10 milliseconds. And response will be back to programmer in 20 milliseconds. How much time the program takes to get a response back to the programmer, after it is sent? ANS: 30MILLISECOND

25. A man, a woman, and a child can do a piece of work in 6 days. Man only can do it in 24 days. Woman can do it in 16 days and in how many days child can do the same work?

26. If A, B and C are the mechanisms used separately to reduce the wastage of fuel by 30%, 20% and 10%. What will be the fuel economy if they were used combined. ANS: 20%

27. Which of the following are orthogonal pairs? a. $3i+2j$ b. $i+j$ c. $2i-3j$ d. $-7i+j$ ANS: (A)& (C).

28. A can copy 50 papers in 10 hours while both A & B can copy 70 papers in 10 hours. Then for how many hours required for B to copy 26 papers? ANS: 13

29. A is twice efficient than B. A and B can both work together to complete a work in 7 days. Then find in how many days A alone can complete the work? ANS: 10.5 DAYS(11)

30. A finish the work in 10 days. B is 60% efficient than A. So hoW days does B take to finish the work?ANS : 4DAYS.

31. A finishes the work in 10 days & B in 8 days individually. If A works for only 6 days then how many days should B work to complete A's work? ANS : 3.2 DAYS(4)

32. Find the singularity matrix from a given set of matrices?(Hint $\det(A)=0$)

33. Sum of slopes of 2 perpendicular st. lines is given. Find the pair of lines from the given set of options which satisfy the above condition?

Section 3. Critical Reasoning.

1. The players G, H, J, K, L, M, N, O are to be felicitated of representing the county team in Baseball Out of these H, M, O also are in the Football team and K, N are there in the Basket ball team . These players are to be seated on a table and no

two players who has represented the county in more than one game are to sit together.

1. Which one of the orders can they be seated in

2. Which of the orders is not possible

3. If N is seated in the middle then which of the following pairs cannot be seated near him .

4. If M is seated then which of the following pairs can be seated next to him.

Choices are given for all the questions

2. There are 2 groups named Brown and red. They can't marry in the same group. If the husband or wife dies then the person will convert to their own group. If a person is married then the husband will have to change his group to his wife's

group. The child will own the mothers group. From these a set of 4 questions were given .Solve them

Eg;

1. Brown's daughter is red (False)

2. If a person is red. Then his/her mother's brother belong to which group if he is married (Brown)

3. 7 people - a, b, c, d, e, f, g Need to make a seating arrangement for them.

Conditions:

1) A should be at the center

2) B, F should be at the right extreme

3) C, E always in pair

4)D,G as far as possible

Questions from the above were asked?

Eg: Which of the following pairs were not possible?

Others questions were similar to the above. More questions were from Barrons