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40 QUESTIONS ---1 HOUR WITH A NEGATIVE MARKING OF 0.25 PER QUESTION

1. If $[x]$ indicates integral of x i.e is the largest integer less than x and $|x|$ indicates absolute value of x then what is the maximum value of $[x]/|x|$.

A. 1 B. 0 C. -1 D. None of these Ans: A

2. In the above question what is the minimum value of $[x]/|x|$.

A. 1 B. 0 C. -1 D. None of these Ans: D

(3-6) If the clock(Conventional clock with numbers from 1 to 12 in order) is cut into 3 pieces such that the sum of numbers on each piece are in Arithmetic Progression(A.P) with a common difference of 1.

3. A.

What is the sum of even numbers in the group where 5 is present? 4 B. 10 C. 12 D. 14 Ans: B

4.

A. 212 B. 252 C. 244 D. None of these

What is the product of all numbers in the group in which 12 is present

5. What is the count of numbers in each piece. A. 2,2,5 B. 5,5,2 C. 3,4,5 D. 6,4,2 Ans: C

6. What is the count of numbers in each piece. A. 2,2,5 B. 5,5,2 C. 3,4,5 D. 6,4,2 Ans: C

7. Avinash takes 15 days to complete a work and Bada takes 12 days to complete the same work. If they work in alternate days, In how many days they finish the work.

A. 13 days B. 13 1/4 days C. 6 1/4 days D. None Ans:

8. There is a circular track of length 400 mts. If A and B Starts at the same point but in opposite direction with a speeds of 8 m/sec and 12 m/s respectively. Then at what time after the begining they will meet for the second time.

A. 1hr 40 sec B. 20 sec C. 40sec D. 3hr 20 sec Ans: C

9. In the above question when will they meet for the first time at the starting point.

A. 1hr 40 sec B. 20 sec C. 40sec D. 3hr 20 sec Ans: A

10. If the vertices of the triangle are A(1,2), B(-2,-3) and C(2,3) then which is the largest angle?

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A. Angle(ABC) B.Angle(BAC) C.Angle(ACB) D.None Ans:B

11. If $(-1,0)$, $(0,-1)$ and $(-1,-1)$ are three vertices of a square then what is the 4th vertex.

12. If $[x]$ indicates integral of x i.e is the largest integer less than x and $|x|$ indicates absolute value of x then find the value of $[1.99]+[-2.99]+[1.03]+[2.50]$

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

Ans: A

Step1: Add all the numbers

Step2: If it is less than 10 STOP, else go to Step1.

13. If $X=6724$ then what is the end result after applying the above algorithm. A. 19 B.10 C.1 D. None Ans:C

14. If the 4 numbers are arranged in all possible orders then how many solutions are possible. A. ONE B. TWO 3.THREE 4. NONE Ans A

15. A trader frauds by 10% while buying and 10% while selling the same. What is the total gain he obtained during the transaction?

A. 13 B.22 1/4 C.20 D.None of these Ans.

16. There are three cylinders with same height and surface area. If a new cylinder is created by melting these three with the same height as before what is the surface area of the new cylinder when compared to that of the previous.

A. 25% more B.50% more C.100% more D.None

17. If $x=a$ then $y=b$ except when $x=b$ and $y=a$. If $x=a$, then p,q,r,s but when x not equal to a then $p,q,r,s=e,f,g,h$. If $x=m$ or n then both characters preceding it and following it also equals the same with the precedence to the preceding

character.

There are 5 questions based on the above.

Technical & HR questions

1. Transistor advantage over FET
2. Use of DFT.
3. Whether a DC source can be used to run a computer
4. Storage class in C ?
5. what type of I/O device is required for C.
6. Application of the various bands in Satellite communication
7. Process to convert a transistor to diode
8. effect of quantisation on the BW of a signal.

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HR Questions

9. How wud u like to spend 7 day holiday
10. what u expect from CTS
11. short term & long term goals
12. How u can contribute from ECE to software
13. Physical realization of Phase modulation.

CTS PAPER IN N.I.T. JAMSHEDPUR

Booklet color: Red

1. Using the digits 1,5,2,8 four digit numbers are formed and the sum of all possible such numbers. 106656
 2. Four persons can cross a bridge in 3, 7, 13, 17 minutes. Only two can cross at a time. Find the minimum time taken by the four to cross the bridge. 20
 3. Find the product of the prime numbers between 1-20 Ans:9699690
 4. 2, 3, 6, 7--- using these numbers form the possible four digit numbers that are divisible by 4.
ans----8
-
5. Two trains are traveling at 18kmph and are 60 km apart. There is flying in the train. It flies at 80kmph. It flies and hits the second train and then it starts to oscillate between the two trains. At one instance when the two trains collide it dies. At what distance travel by the fly. Ans---12km
 6. There are 1000 doors that are of the open-close type. When a person opens the door he closes it and then opens the other. When the first person goes he opens-closes the doors ion the multiples of 1 i.e., he opens and closes all the doors .when the second goes he opens and closes the doors 2, 4 6 8 resly. Similarly when the third one goes he does this for 3 6 9 12 15th doors resly. Find number of doors that are open at last.666
 7. There are 9 balls of these one is defective. Find the minimum no. of chances of finding the defective one.2
 8. There are coins of Rs.5, 2, 1,50p, 25p, 10p, 5p. each one has got a weight. Rs 5 coin weighs 20gms.find the minimum number of coins to get a total of 196.5gms.
 9. A can do a work in 8 days, B can do a work in 7 days, C can do a work in 6 days. A works on the first day, B works on the second day and C on the third day resly.that is they work on alternate days. When will they finish the work.(which day will they finish the work) (7+7/168)->>8

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10. A batsman scores 23 runs and increases his average from 15 to 16. Find the runs to be made if he wants to increase the average to 18 in the same match. 39

11. A man sells apples. First he gives half of the total apples what he has and a half apple. Then he gives half of the remaining and a half apple. He gives it in the same manner. After 7 times all are over. How many apples did he initially have? Ans: 127

12. In a club there are male and female members. If 15 female quit then the number of males will become double the number of males. If 45 males quit no. of female becomes five times the number of males. Find the number of females. Ans: $160/3$, $83/3$

13. When I was married 10 years back my wife was the sixth member of my family. Now I have a baby. Today my father was dead and I had a new baby. Now the average age of my family is the same as that when I was married. Find the age of my father when he was. 60

14. I and two of my friends were playing a game. For each win I get Rs 3. Totally I had three wins. Player 2 got Rs9 and player 3 got Rs 12. How many games had been played? 10

15. A person gives a secret to two other persons in 5 minutes. How long will he take to tell the secret to 768 people?

16. There are 40 seats in a bus. People agree to share the money for the number of seats. The total money comes to 70.37. How many seats were free? Ans: 31

17. I had Rs100 and I play. If I win I will have Rs110 and if I lose I will have Rs90. at the end I have 2 wins and 2 lose. How much do I have? Ans: Rs. 100

18. There were sums related to diagrams. They asked to calculate the areas of the circle, rectangle that were enclosed in other objects. They were simple. There were many questions on logical reasoning.

Eg: There are two identical islands. Same tribe lives in the islands. But their receptiveness varies.

This is the question. There were four choices and we have to select the most appropriate one.

For the above one the answer is ----- because of climatic changes There was a question in which they

gave a polygon with all the external angles. We have to calculate the asked interior angle

19 A says " the horse is not black".

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B says " the horse is either brown or grey."

C says " the horse is brown"

At least one is telling truth and atleast one is lying. tell the colour of horse?

Answer : grey

20. A son and father goes for boating in river upstream . After rowing for mile son notices the hat

of his father falling in the river. After 5 min. he tells his father that his hat has fallen. So they

turn round and are able to pick the hat at the point from where they began boating after 5min.

Tell the speed of river? Ans...6 miles/hr

21. $A+B+C+D=D+E+F+G=G+H+I=17$ where each letter represent a number from 1 to 9. Find

out what does letter D and G represent if letter A=4. (8 marks) Ans. D=5 G=1

22. Argentina had football team of 22 player of which captain is from Brazilian team and goalki from

European team. For remaining player they have picked 6 from argentinian and 14 from european.

Now for a team of 11 they must have goalki and captain so out of 9 now they plan to select 3

from argentinian and 6 from European. Find out no of marks)

Ans : 160600 (check out for right no. $6C3 * 14C6$)

23 Three thieves were caught stealing sheep, mule and

camel.

methods available for it. (2

A says " B had stolen sheep "

C says " B had stolen mule"

B says he had stolen nothing.

The one who had stolen horse is speaking truth. the one who had stolen camel is lying . Tell

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who
had stolen what? Ans. A- camel ;B- mule ;C- horse

24

A group of friends goes for dinner and gets bill of Rs 2400 . Two of them says that they have forgotten their purse so remaining make an extra contribution of Rs 100 to pay up the bill. Tell

the
no. of person in that group. Ans - 8 person

25 In a colony there are some families. Each of them have children but different in numbers. Following

are conditions:

A) No of adult no of sons no of daughters no of families.

B) Each sister must have atleast one brother and should have at the most 1 sister. C) No of children in one family exceeds the sum of no of children in the rest families. D) Tell the no of families.(5 marks)

Ans : 3 families

26 There are 6 people W,H,M,C,G,F who are murderer , victim , judge , police, witness, hangman.

There was n eye witness only circumtancial witness. The murderer was sentenced to death. read following statement and determne who is who.

1. M knew both murderer and victim.
2. Judge asked C to discribe murder incident.
3. W was last to see F alive.
4. Police found G at the murder site.

5 H and W never met.

CTS KCT question paper code 3911

Verbal 20 minutes 25 marks. Analytical 25 minutes 25 marks. Mental ability 20 minutes 20 marks.

Analytical section

1. 68 routes are there in railway track. 3 connect A,B,C. 4 connect A and C. 3 connect A B. 2 connect B C. Routes to ABC are in the ration 11:15:8.

Find only A

Only B

Only C

The rest were simple questions.

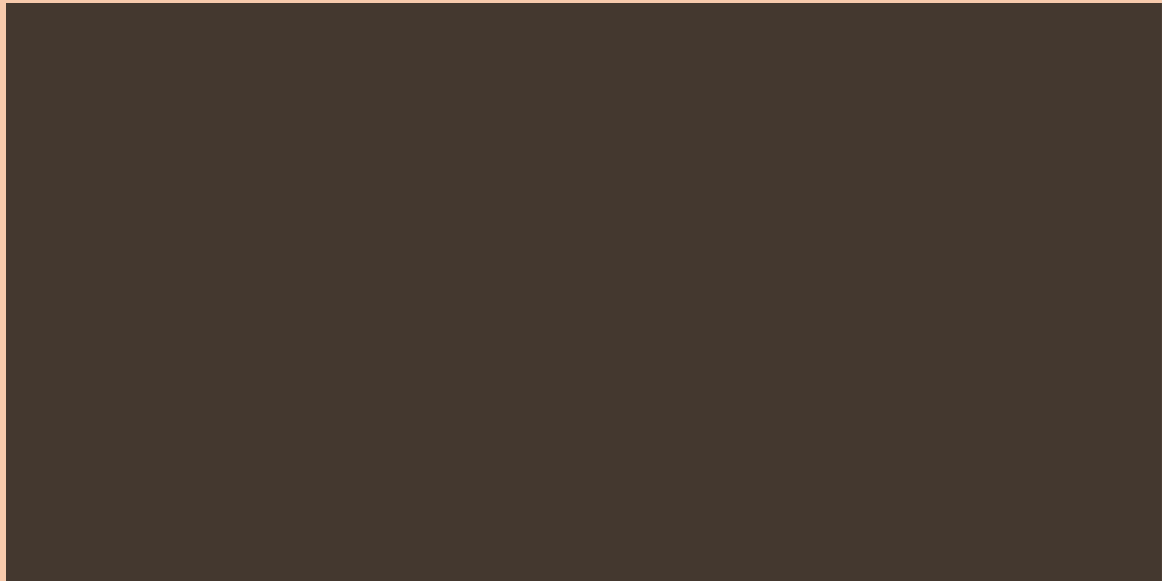
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2. This is algorithm based question Algorithm.



Step

1: $x=0, y=1, z=1$; 2: $x=z$;

3: $y=x*x-1$;

4: $y=y+2$;

5: if($z>100$) Goto step 6

Else

Goto step 2 6: Exit

Five questions were based on this algorithm.

Find the value of y after one iteration.

Find the value of x,y,z after the exit of program Find the value of z after 3 iterations

3. Then the next 5 questions (11 to 15) are like

$P+q=5$; $q+r=10$ like that and to find the value of $P+q+r$ one statement is enough or two statement is enough and questions like that.

The answer for 11 to 15 (3 1 0 4 -)

Answer for 16 n 17 (2 4)

4. Question based on binary system. (5 marks) Find the value of

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The clue is that it is binary system based. Clue ll be in the question itself. Substitute 1 for \$ and 0 for *

5. In a race if x leads y by 10 meters and y leads z by 10 meters in a 100 m race. Find the difference between x ad z.

And two more questions were asked based on probability and trains

Verbal

Reading comprehension 2 for 10 marks

Then choose the best sentence from the given sentences that was for 5 mark (very easy)

Preposition and articles for 5 marks.

(no synonym and antonyms)

Mental ability.

The first 10 questions in mental ability was purely pictorial based questions (similar to the one which ll be there in IQ books easy stuff)

The first 5 were picking the odd one out and the next five were like finding the next picture in the given series of pictures.

The rest of the questions were deduction based questions.

1. All books are pages All pages are books

1. a All box are book
2. b all books are boxes
3. c no books are oxes
4. d both a and b

2 no train is a bus no bus is a truck

1. a no truck is a train
2. b no train is a truck

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- 3. c both a and b
- 4. d none of the above **few more questions were like this only**

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