**TCS Previous years Technical Hr and Aptitude questions**

• What does static variable mean?  
  
• What is a pointer?  
  
• What is a structure?  
  
• What are the differences between structures and arrays?  
  
• In header files whether functions are declared or defined?  
  
• What are the differences between malloc() and calloc()?  
  
• What are macros? what are its advantages and disadvantages?  
  
• Difference between pass by reference and pass by value?  
  
• What is static identifier?  
  
• Where are the auto variables stored?  
  
• Where does global, static, local, register variables, free memory and C Program instructions get stored?  
  
• Difference between arrays and linked list?  
  
• What are enumerations?  
  
• What is a class?  
  
• What is an object?  
  
• What is the difference between an object and a class?  
  
• What is the difference between class and structure?  
  
• What is public, protected, private?  
  
• What are virtual functions?  
  
• What is friend function?  
  
• What is a scope resolution operator?  
  
• What do you mean by inheritance?  
  
• What is abstraction?  
  
• What is a data structure?  
  
• What does abstract data type means?  
  
• Evaluate the following prefix expression " ++ 26 + - 1324" (Similartypes can be asked)  
  
• Convert the following infix expression to post fix notation ((a+2)\*(b+4)) -1 (Similar types can be asked)  
  
• How is it possible to insert different type of elements in stack?  
  
• Stack can be described as a pointer. Explain.  
  
• Write a Binary Search program  
  
• What is the difference between an Abstract class and Interface?  
  
• What is user defined exception?  
  
• What do you know about the garbage collector?  
  
• What is the difference between java and c++?  
  
• In an HTML form I have a button which makes us to open another page in 15 seconds. How will you dothat?  
  
• What is the difference between process and threads?  
  
• What is update method called?  
  
• Have you ever used HashTable and Directory?  
  
• What are statements in Java?  
  
• What is RMI?  
  
• Explain about RMI Architecture?  
  
• What are Servelets?  
  
• What is the use of servlets?  
  
• Explain RMI Architecture?  
  
• How will you pass values from HTML page to the servlet?  
  
• How do you load an image in a Servelet?  
  
• What is purpose of applet programming?  
  
• How will you communicate between two applets?  
  
• What are the basic functions of an operating system?  
  
• Explain briefly about, processor, assembler, compiler, loader, linker and the functions executed by them.  
  
• What are the difference phases of software development? Explain briefly?  
  
• Differentiate between RAM and ROM?  
  
• What is DRAM? In which form does it store data?  
  
• What is cache memory?  
  
• What is hard disk and what is its purpose?  
  
• Differentiate between Complier and Interpreter?  
  
• What are the different tasks of Lexical analysis?  
  
• What are the different functions of Syntax phase, Sheduler?  
  
 **TCS Placement Paper 2012:-  
1. Which Is The Smallest No Divides 2880 And Gives A Perfect Square?  
A.1**  
B.2  
C.5  
D.6  
Ans: C  
  
2. Two Bowls Are Taken, One Contains Water And Another Contains Tea Equal Amount . One Spoon Of Water From 1st Is Added To second Bowl And Mixed Well, And A Spoon Of Mixture Is Taken From Second Bowl And Added To The 1st Bowl. Which Statement Will Hold Good For The Above?  
{  
Thought Process :  
Water Bowl Tea Bowl  
100 100  
90w (+10w= Spoon Volume) 100tea+10water  
90w+ (10\*10/11)Tea+ 10/11 W 100t- (10\*10/11) T  
+ 10w- 10/11w  
(1st Bowl’s Water Volume Is Equal To 2nd Bowls Tea Volume)

3. Form 8 Digit Numbers From By Using 1, 2,3,4,5 With Repetition Is Allowed And Must Be Divisible By 4?  
A.31250  
B.97656  
C.78125  
D.97657  
Ans: C  
  
4. Rearrange And Categorize The Word ‘Rapeteka’?  
Ans: Bird  
  
5. One Problem On (785^3-235^3)/(785^2+785\*235+235^2)  
Ans: You Are Free To Carry A Calculator With You But You Should Not Use It To Solve This Kind Of Problem.  
Because It Is Simple:  
A3-b3 / A2+ab+b2  
Ans Is : A-b Here 785-235= 550 That's It.  
  
6. In School There Are Some Bicycles And 4 Wheeler Wagons. One Tuesday There Are 190 Wheels In The Campus. How Many Bicycles Are There?  
Ans: 15  
Thought Process : B\*2+w\*4=190 I.E. , B+2w=95 Now See U Can Not Solve 2 Unknowns From 1 Equation, So Just Plot Options Here To Get The Right Answer And Verify If You Are Getting Integers As Values Of B And W.  
  
7. There Are Two Persons Paul And Jay .Paul Lies On Monday, Tuesday, Wednesday And The Remaining Days He Speaks Truth. Jay Lies On Thursday, Friday, Saturday And The Remaining Days He Speaks Truth. Once They Meet Each Other, In Their Conversation Paul Says That Yesterday Is The Day One Among Those I Lie. Jay Also Says That Yesterday I Also Lie. What Is That Day?  
A) Sunday.  
B) Tuesday.  
C) Thursday.  
D) Wednesday  
[Thought Process: Now This Day Cannot Be Sunday Because In Monday Paul Speaks Truth And Sunday Everyone Tells Truth. So It Must Be Weekdays. Again, Tuesday Can Not Possible Because Monday And Tuesday Paul Speaks Truth. In Case Of Thrust Day, Paul Speaks Lie And Wednesday He Speaks True. And Joy Speaks Truth In Thursday And He Speak Lies In Wednesday. So, Thursday Is The Answer.  
  
8. A Father Has 7 Penny’s With Him And 1 Water Melon Is For 1p, 2chickoos For 1p, 3 Grapes Foe 1p. He Has Three Sons. How Can He Share The Fruits Equally?  
Ans: 1 Watermelon, 2chickoos, 1grape  
  
9. (1/2) Of A Number Is 3 Times More Than The (1/6) Of The Same Number?  
Ans: 9  
  
10. There Are Two Pipes A And B. If A Filled 10 Liters In Hour B Can Fills 20 Liters In Same Time. Likewise B Can Fill 10, 20, 40, 80,160…. If B Filled In (1/16) Th Of A Tank In 3 Hours, How Much Time Will It Take To Fill Completely?  
Ans: 7 Hours  
  
11.A certain pump can drain a full 375-gallon tank in 15 minutes. At this rate, how many more minutes would it take to drain a full 600-gallon tank?  
(A) 9  
(B) 15  
(C) 18  
(D) 24  
(E) 25  
  
12. If n is an even integer, which of the following must be an odd integer?  
(A) 3n-2  
(B) 3(n+1)  
(C)n-2  
(D)n/3  
(E)n^2  
  
13. Cindy has a collection of 80 records. If 40 percent of her records are jazz records, and the rest are blues records, how many blues records does she have?  
(A) 32  
(B) 40  
(C) 42  
(D) 48  
(E) 50  
  
14. Express 2,750,389 in scientific notation.  
(A) 27.50389 x 105  
(B) 275.0389 x 103  
(C) 27.50389 x 106  
(D) 0.2750389 x 107  
(E) 2.750389 x 106  
  
15. A rectangle and a triangle have equal areas. The length of the rectangle is 12 inches, and its width is 8 inches. If the base of the triangle is 32 inches, what is the length, in inches, of the altitude drawn to the base?  
(A) 6  
(B) 8  
(C) 9  
(D) 12  
(E) 16  
  
16. If the area of a triangle is 24 and its base is 6, what is the length of the altitude to that base?  
(A)3  
(B)6  
(C)8  
(D)10  
(E)unknown  
  
17.Lenny's average score after 3 tests is 88. What score on the 4th test would bring Lenny's average up to exactly 90?  
(A)92  
(B)93  
(C)94  
(D)95  
(E)96  
  
18. If an integer is divisible by 6 and by 9, then the integer must be divisible by which of the following?  
A. 12  
B. 18  
C. 24  
D. 36  
E. 54  
  
19.If Jeff and Jimmy have less than 22 dollars between them, and Jeff has 8 dollars, which of the following could be the number of dollars that Jimmy has?  
I.12  
II. 14  
III. 16  
A. I only  
B. III only  
C. I & III.  
D. I & II  
E. Neither I, II, nor III are correct  
  
20.Stephanie drove at an average rate of 50 miles per hour for two hours and then increased her average rate by 50% for the t 3 hours. Her average rate of speed for the 5 hours was t miles per hour. What is the value of t?  
A. 55 mph  
B. 60 mph  
C. 65 mph  
D. 70 mph  
E. 75 mph  
  
21. How many complete tanks of water, each with a capacity of 3 cubic meters, are needed to fill an empty cylindrical tank whose height is 3 meters and whose base has a radius of 2 meters?  
A) 12  
B) 13  
C) 14  
D) 15  
E) 16  
  
22. Any serious policy discussion about acceptable levels of risk in connection with explosions is not well served if the participants fail to use the word “explosion” and use the phrase “energetic disassembly” instead. In fact, the word“explosion” elicits desirable reactions, such as a heightened level of attention, whereas the substitute phrase does not. Therefore, of the two terms, “explosion” is the one that should be used throughout discussions of this sort. Which of the following is an assumption on which the argument above depends?  
(A) In the kind of discussion at issue, the advantages of desirable reactions to the term “explosion” outweigh the drawbacks,if any, arising from undesirable reactions to that term.  
(B) The phrase “energetic disassembly” has not so far been used as a substitute for the word “explosion” in the kind of discussion at issue.  
(C) In any serious policy discussion, what is said by the participants is more important than how it is put into words.  
(D) The only reason that people would have for using “energetic disassembly” in place of “explosion” is to render impossible any serious policy discussionconcerning explosions.  
(E) The phrase “energetic disassembly” is not necessarily out of place in describing a controlled rather than an accidental  
explosion  
  
23. A certain shade of gray paint is obtained by mixing 3 parts of white paint with 5 parts of black paint. If 2 gallons of the mixture is needed and the individual colors can be purchased only in one-gallon or half- gallon cans, what is the least amount of paint, in gallons, that must be purchased in order to measure out the portions needed for the mixture?  
(A) 2  
(B) 2 ½  
(C) 3  
(D) 3 ½  
(E) 4  
  
24. To buy a computer system, a customer can choose one of 4 monitors, one of 2 keyboards, one of 4 computers and one of 3 printers. Determine the number of possible systems that a customer can choose from.  
(A) 96  
(B)98  
(C)98.5  
(D) 94  
(E)100  
  
25. A student can select one of 6 different mathematics books, one of 3 different chemistry books and one of 4different science books. In how any different ways can a student select a book of mathematics, a book of chemistry and a book of science?  
A) 14  
(B)12  
(C)72  
(D) 74  
(E)76