Test Booklet Sr No.

TEST PAPER

Marks: 100
Time: 60 minutes

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| ROLL NO.: | NAME: |  |
| SIGNATURE: $\quad \ldots$ |  |  |


| INSTRUCTIONS FOR THE CANDIDATES |  |
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| 1. | Before attempting the paper carefully read out all the Instructions \& Examples given on Side 1 <br> of Answer Sheet (OMR Sheet) supplied separately. |
| 2. | At the start of the examination, please ensure that all pages of your Test booklet are properly <br> printed; your Test booklet is not damaged in any mannerand contains 100 questions. In case <br> of any discrepancy the candidate should immediately report the matter to the invigilator for <br> replacement of Test Booklet. No claim in this regard will be entertained at the later stage. |
| 3. | An OMR Answer Sheet is being provided separately along with this Test booklet. Please fill up <br> all relevant entries like Roll Number, Test Booklet Code etc. in the spaces provided on the OMR <br> Answer Sheet and put your signature in the box provided for this purpose. |
| 4. | Make sure to fill the correct Test booklet code on Side 2 of the OMR Answer Sheet. If the space <br> for the Booklet Code is left blank or more than one booklet code is indicated therein, it will be <br> deemed to be an incorrect booklet code \& Answe Sheet will not be evaluated. The candidate <br> himself/herself will be solely responsible for all the consequences arising out of any error or <br> omission in writing the test booklet code. |
| 5. | This Test Booklet consists of 08 pages containing 100 questions. Against each question four <br> alternative choices (1), (2), (3), (4) are given, out of which one is correct. Indicate your choice of <br> answer by darkening the suitable circle with BLACK/BLUE pen in the OMR Answer Sheet <br> supplied to you separately. Use of Pencil is strictly prohibited. More than one answer indicated <br> against a question will be deemed as incorrect response. |
| 6. | The maximum marks are 100. Each question carries one mark. There will be no negative <br> marking. The total time allocated is 60 minutes. |
| 7. | Do not fold or make any stray marks on the OMR Answer Sheet. Any stray mark or smudge on <br> the OMR Answer Sheet may be taken as wrong answer. Any damage to OMR Answer Sheet <br> may result in disqualification of the candidate. |
| 8. | On completion of the test, candidate must hand over the OMR Answer Sheet to the <br> invigilator on duty in the room/hall. |
| 9. | Use of Mobile phones and calculators etc. are not allowed. |
| 10. | Keep all your belongings outside the Examination hall. Do not retain any paper except the <br> ADMIT CARD. |


| 1 | One of the following Memories has the highest speed in terms of data transfer to and from the processor. <br> (1) Cache Memory <br> (2) Primary Memory <br> (3) Secondary Memory <br> (4) External memory |
| :---: | :---: |
| 2 | What is not part of the CPU <br> (1) Control Unit <br> (2) Arithmetic and Logical Unit <br> (3) Registers <br> (4) Power Unit |
| 3 | One of the following Memories has the highest speed in terms of data transfer to and from the processor. <br> (1) L1 Cache <br> (2) RAM <br> (3) Hard Disk <br> (4) L3 Cache |
| 4 | The sequence in which the speed is increasing in ascending order <br> a. RAM <br> b. Hard disk <br> c. Cache <br> d. Thumb Drive/Memory Stick <br> (1) dbac <br> (2) bdac <br> (3) badc <br> (4) abdc |
| 5 | Match the following in the given sequence <br> i. Software <br> a. Brain of the computer <br> ii. Program <br> b. Software Embedded in Hardware <br> iii. Firmware <br> c. Collection of related Programs <br> iv. CPU <br> d. Set of instructions to perform a task <br> (1) i-a ii-b iii-c iv-d <br> (2) i-a ii-b iii-d iv-c <br> (3) i-c ii-d iii-a iv-b <br> (4) i-c ii-d iii-b iv-a |
| 6 | Match the following in the given sequence <br> i. Arithmetic Instructions <br> a. perform Boolean operations <br> ii. Logical Instructions <br> b. can change the sequence of execution <br> iii. I/O instructions <br> c. perform numerical calculations <br> iv. Program Control Instructions <br> d. transfer information to/from CPU to I/O devices <br> (1) i-c ii-a iii-d iv-b <br> (2) i-a ii-c iii-d iv-b <br> (3) i-b ii-c iii-d iv-a <br> (4) i-a ii-b iii-d iv-c |
| 7 | $2^{30}$ bytes of memory is called <br> (1) 1 KB <br> (2) 1 MB <br> (3) 1 GB <br> (4) 1 TB |
| 8 | $10^{6}$ bytes of memory is called <br> (1) 1 KB <br> (2) 1 MB <br> (3) 1 GB <br> (4) 1 TB |
| 9 | Control Bus Carries <br> (1) Data <br> (2) Address <br> (3) Read, Write Signal <br> (4) Data \& Address |
| 10 | The goodness of an algorithm is most often expressed in terms of its <br> (1) Best Case complexity <br> (2) Average Case complexity <br> (3) Worst Case complexity <br> (4) Random case complexity |
| 11 | How many time we should half the number $n$ to reach 1. <br> (1) $n$ <br> (2) $\log (n)$ <br> (3) $n(\log (n))$ <br> (4) n2 |
| 12 | Find the complexity of the following code <br> for ( $\mathrm{i}=0$; $\mathrm{i}<\mathrm{n} ; \mathrm{i}++$ ) <br> \{for ( $\mathrm{j}=0 ; \mathrm{i}<\mathrm{n} ; \mathrm{j}++$ ) \{ <br> for ( $k=0 ; i<n ; k++$ ) <br> \{i=j; <br> \}\}\} <br> (1) $\mathrm{O}(\mathrm{n})$ <br> (2) $\mathrm{O}(\mathrm{n} 2)$ <br> (3) $O$ (nlogn) <br> (4) $\mathrm{O}(\mathrm{n} 3)$ |
| 13 | Which of the following uses Divide and Conquer Approach <br> (1) Selection Sort <br> (2) Bubble sort <br> (3) Linear Search <br> (4) Binary Search |
| 14 | (1010.1110) $2=($ $\qquad$ ) 10 <br> (1) 4.2345 <br> (2) 9.456 <br> (3) 10.875 <br> (4) 11.657 |
| 15 | (AABC) $16=$ $\qquad$ <br> (1) 123456 <br> (2) 125274 <br> (3) 127890 <br> (4) 324512 |
| 16 | Which if the following operation is the easiest in terms of time as a resource <br> (1) Accessing an element <br> (2) deletion of an element <br> (3) Insertion of an element <br> (4) creation of Array of given size |
| 17 | An array is not full, The time complexity of Insertion in an array at a specific position is <br> (1) O (nlogn) <br> (2) $\mathrm{O}(1)$ <br> (3) $\mathrm{O}(\mathrm{n})$ <br> (4) $\mathrm{O}(\log n)$ |
| 18 | An array of size 100 is given and the memory addressing is byte by byte. If The base address of the array is 1000 and every record consists of 40 bytes then address of array[10] will be <br> (1) 1040 <br> (2) 1400 <br> (3) 1440 <br> (4) 1080 |
| 19 | There are 20 people who work in an office together. Four of these people are selected to attend four different conferences. The first person selected will go to a conference in New Delhi, the second will go to Kolkata, the third to Chennai, and the fourth to Mumbai. How many such selections are possible? <br> (1) 116280 <br> (2) 80 <br> (3) 4845 <br> (4) none of these |
| 20 | Total numbers of ascending runs in the sequence 46729128930 <br> (1) 3 <br> (2) 5 <br> (3) 7 <br> (4) 9 |


| 21 | Match the following in the given sequence <br> i) Stack <br> a. LIFO <br> ii)Queue <br> b. FIFO <br> iii) Array <br> c. continuous memory <br> iv) Link List <br> d. uses pointers <br> (1) i-b ii-a iii-d iv-c <br> (2) i-a ii-b iii-c iv-d <br> (3) i-a ii-b iii-d iv-c <br> (4) i-b ii-a iii-c iv-d |
| :---: | :---: |
| 22 | Stack does not have one of the following methods <br> (1) Pop <br> (2) push <br> (3) Top <br> (4) replace |
| 23 | Which of the following permutation can be obtained in the output (in the same order) using a stack assuming that the input is the sequence $1,2,3,4,5$ in that order? <br> (1) $3,4,5,1,2$ <br> (2) $3,4,5,2,1$ <br> (3) $1,5,2,3,4$ <br> (4) $5,4,3,1,2$ |
| 24 | What will be the result of the LAST operation in the given sequence of operations: $\operatorname{PUSH}(\&)$; PUSH(\$); PUSH(@);TOP(); POP(); PUSH(\#); POP();POP(); PUSH(\%); POP(); <br> (1) @ <br>  <br> (3) \# <br> (4) \% |
| 25 | What will be the output of the following C program main() \{ <br> int count, $\mathrm{i}, \mathrm{x}$; <br> for (count $=1, x=0, \mathrm{i}=0$; count $<=4 ;$ count,$++ \mathrm{i}++$ ) <br> \{ <br> $\mathrm{x}=\mathrm{i} \% 2$; <br> if $(\mathrm{x}==0$ ) <br> continue; <br> else <br> \{ <br> printf("\%dln",x); <br> continue; <br> \} <br> \} <br> printf("\%d",count); <br> \} <br> (1) 245 <br> (2) 115 <br> (3) 255 <br> (4) 122 |
| 26 | What will be the output of the following program main() <br> \{ <br> int $\mathrm{k}=3$; <br> switch(k) <br> \{ <br> default : $\mathrm{k}+=2$; <br> case 4: k+=1; <br> case 5: --k; <br> \} <br> (1) 5 <br> (2) 3 <br> (3) 2 <br> (4) 4 |
| 27 | What will be the output of the following program main() \{ <br> int $y, x=1$, total $=0$; <br> while ( $x<=10$ ) <br> \{ $y=x^{*} x$ <br> total $+=y$; $++x$ <br> \} // end while <br> (1) 81 <br> (2) 1 <br> (3) 385 <br> (4) 45 |


| 28 | What will be the output of the following program main() <br> \{ <br> int $\mathrm{i}=0, \mathrm{x}=0$; <br> for( $\mathrm{i}=1 ; \mathrm{i}<10$;++i) <br> \{ <br> if(i\%2 == 1 ) <br> $\mathrm{x}+=\mathrm{i}$; <br> else <br> x--; <br> printf("In\%d",x); <br> break; <br> \} <br> printf("\nx=\%d",x);\} <br> (1) $1 \quad 1$ <br> (2) $5 \quad 5$ <br> (3) 101 <br> (4) 10 |
| :---: | :---: |
| 29 | Convert (A-B)*(D/E) into a postfix expression <br> (1) $A B-D E / *$ <br> (2) $A^{*} B D / E-$ <br> (3) ABDE-/* <br> (4) /-ABDE |
| 30 | The fact that the same operation may apply to two or more classes is called what? <br> (1) Inheritance <br> (2) Polymorphism <br> (3) Encapsulation <br> (4) Multiple classification |
| 31 | The object-oriented development life cycle is which of the following? <br> (1) Analysis, design, and implementation steps in the given order and using multiple iterations. <br> (2) Analysis, design, and implementation steps in the given order and going through the steps no more than one time. <br> (3) Analysis, design, and implementation steps in any order and using multiple iterations. <br> (4) Analysis, design, and implementation steps in any order and going through the steps no more than one time |
| 32 | Multiplicity is the same as what concept for an ERD? <br> (1) Relationship <br> (2) Entity <br> (3) Attribute <br> (4) Cardinality |
| 33 | Composition is a stronger form of which of the following? <br> (1) Aggregation <br> (2) Encapsulation <br> (3) Inheritance <br> (4) All of the above. |
| 34 | Which of the following applies to a class rather than an object? <br> (1) Query <br> (2) Scope <br> (3) Update <br> (4) Constructor |
| 35 | Row is synonymous with the term: <br> (1) record. <br> (2) column. <br> (3) relation. <br> (4) field. |
| 36 | The primary key is selected from the: <br> (1) composite keys. <br> (2) determinants. <br> (3) candidate keys. <br> (4) foreign keys. |
| 37 | Which of the following is a group of one or more attributes that uniquely identifies a row? <br> (1) Key <br> (2) Tuple <br> (3) Determinant <br> (4) Relation |
| 38 | A functional dependency is a relationship between or among: <br> (1) tables. <br> (2) relations. <br> (3) rows. <br> (4) attributes. |
| 39 | A tuple is $\mathrm{a}(\mathrm{n})$ : <br> (1) Column of a table. <br> (2) two dimensional table. <br> (3) row of a table. <br> (4) key of a table. |
| 40 | The DROP TABLE statement: <br> (1) deletes the table structure only. <br> (2) deletes the table structure along with the table data. <br> (3) works whether or not referential integrity constraints would be violated. <br> (4) is not an SQL statement. |
| 41 | For what purposes are views used? <br> (1) To hide columns only <br> (2) To hide rows only <br> (3) To hide complicated SQL statements only <br> (4) All of the above are uses for SQL views. |
| 42 | What is the best data type definition for Oracle when a field is alphanumeric and has a length that can vary? <br> (1) VARCHAR2 <br> (2) LONG <br> (3) CHAR <br> (4) NUMBER |
| 43 | In which header file is isalpha() declared? <br> (1) conio.h <br> (2) stdio.h <br> (3) ctype.h <br> (4) maths.h |
| 44 | Which one of the following OOP concepts enables reusability of components? <br> (1) Inheritance <br> (2) Encapsulation <br> (3) Polymorphism <br> (4) All of the above |
| 45 | The term operator overloading in $\mathrm{C}++$ refers to: <br> (1) Inheritance <br> (2) Message passing <br> (3) Polymorphism <br> (4) None |
| 46 | In C++ a function contained within a class is called <br> (1) a member function <br> (2) an operator <br> (3) a class function <br> (4) a method |


| 47 | What value must a constructor return? <br> (1) A pointer to the class. <br> (2) An object of the class. <br> (3) A status code determining whether the class was destructed correctly <br> (4) Constructors do not return a val |
| :---: | :---: |
| 48 | A page fault occurs <br> (1) when the page is not in the memory <br> (2) when the page is in the memory <br> (3) when the process enters the blocked state <br> (4) when the process is in the ready state |
| 49 | What is a shell? <br> (1) It is a hardware component <br> (2) It is a command interpreter <br> (3) It is a part in compiler <br> (4) It is a tool in CPU scheduling |
| 50 | Routine is not loaded until it is called. All routines are kept on disk in a relocatable load format. The main program is loaded into memory \& is executed. This type of loading is called $\qquad$ <br> (1) Static loading <br> (2) Dynamic loading <br> (3) Dynamic linking <br> (4) Overlays |
| 51 | In the blocked state <br> (1) the processes waiting for I/O are found <br> (2) the process which is running is found <br> (3) the processes waiting for the processor are found <br> (4) none of the above |
| 52 | What is the memory from $1 \mathrm{~K}-640 \mathrm{~K}$ called ? <br> (1) Extended Memory <br> (2) Normal Memory <br> (3) Low Memory <br> (4) Conventional Memory |
| 53 | Virtual memory is $\qquad$ . <br> (1) An extremely large main memory <br> (2) An extremely large secondary memory <br> (3) An illusion of extremely large main memory <br> (4) A type of memory used in super computers. |
| 54 | The process related to process control, file management, device management, information about system and communication that is requested by any higher level language can be performed by <br> (1) Editors <br> (2) Compilers <br> (3) System Call <br> (4) Caching |
| 55 | If the Disk head is located initially at 32, find the number of disk moves required with FCFS if the disk queue of I/O blocks requests are $98,37,14,124,65,67$. <br> (1) 10 <br> (2) 324 <br> (3) 315 <br> (4) 321 |
| 56 | Multiprogramming systems $\qquad$ <br> (1) Are easier to develop than single programming systems <br> (2) Execute each job faster <br> (3) Execute more jobs in the same time <br> (4) Are used only on large main frame computers |
| 57 | Which is not the state of the process? <br> (1) Blocked <br> (2) Running <br> (3) Ready <br> (4) Privileged |
| 58 | The problem of thrashing is effected scientifically by $\qquad$ <br> (3) Primary storage size <br> (4) None of the above |
| 59 | The state of a process after it encounters an I/O instruction is $\qquad$ <br> (1) Ready <br> (2) Blocked/Waiting <br> (3) Idle <br> (4) Running |
| 60 | The number of processes completed per unit time is known as $\qquad$ <br> (1) Output <br> (2) Throughput <br> (3) Efficiency <br> (4) Capacity |
| 61 | $\qquad$ is the situation in which a process is waiting on another process,which is also waiting on another process ... which is waiting on the first process. None of the processes involved in this circular wait are making progress. <br> (1) Deadlock <br> (2) Starvation <br> (3) Dormant <br> (4) None of the above |
| 62 | Which of the following file name extension suggests that the file is Backup copy of another file ? <br> (1) TXT <br> (2) COM <br> (3) BAS <br> (4) BAK |
| 63 | Which technique was introduced because a single job could not keep both the CPU and the I/O devices busy? <br> (1) Time-sharing <br> (2) SPOOLing <br> (3) Preemptive scheduling <br> (4) Multiprogramming |
| 64 | A critical region <br> (1) is a piece of code which only one process executes at a time <br> (2) is a region prone to deadlock <br> (3) is a piece of code which only a finite number of processes execute <br> (4) is found only in Windows NT operation system |
| 65 | The mechanism that bring a page into memory only when it is needed is called <br> (1) Segmentation <br> (2) Fragmentation <br> (3) Demand Paging <br> (4) Page Replacement |
| 66 | PCB = <br> (1) Program Control Block <br> (2) Process Control Block <br> (3) Process Communication Block <br> (4) None of the above |

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| 89 | NET remote server object must implement? <br> (1) IUnknown <br> (2) IMarshalByValue <br> (3) IMarshalByRef <br> (4) ISerializable |
| :---: | :---: |
| 90 | What property is used on the DataTable to indicate conflicts after update method is called? <br> (1) HasErrorConflict <br> (2) HasError <br> (3) HasCollision <br> (4) HasDataError |
| 91 | What is the fastest way to concat strings in ASP.NET ? What should you do? <br> (1) Write code that uses the Append method of the StringBuilder object. <br> (2) Write code that uses the Substring method of the String object. <br> (3) Write code that uses the Concat method of the String object. <br> (4) Write code that uses the plus-sign (+) operator to concatenate the strings. |
| 92 | Which access method is used for obtaining a record from a cassette tape? <br> (1) Direct <br> (2) Sequential <br> (3) Random <br> (4) All of the above |
| 93 | The average time necessary for the correct sector of a disk to arrive at the read write head is <br> (1) Down time <br> (2) Seek time <br> (3) Rotational delay <br> (4) Access time |
| 94 | A 20-bit address bus allows access to a memory of capacity <br> (1) 1 Mb <br> (2) 2 Mb <br> (3) 32 Mb <br> (4) 64 Mb |
| 95 | Two main measures for the efficiency of an algorithm are <br> (1) Processor and memory <br> (2) Complexity and capacity <br> (3) Time and space <br> (4) Data and space |
| 96 | The fields in a class of a C++ program are by default <br> (1) protected <br> (2) public <br> (3) private <br> (4) None of these |
| 97 | Which looping process is best used when the number of iterations is known? <br> (1) for <br> (2) while <br> (3) do-while <br> (4) all looping processes require that the iterations be known |
| 98 | In C++, 14 \% 4 = <br> (1) 1 <br> (2) 2 <br> (3) 3 <br> (4) 4 |
| 99 | If the program completes executing successfully, what value should the function main() return? <br> (1) 0 <br> (2) 1 <br> (3) void <br> (4) 2 |
| 100 | Which of the following sorts is quickest when sorting the following set: 12354 <br> (1) Quick Sort <br> (2) Bubble Sort <br> (3) Merge Sort <br> (4) Heap Sort |

## Rough Work

