HAL Sample Test Paper 2008

General Awareness

1.The Kaziranga national park in Assam is famous for ----------------
A) one horn rhinoceros   B)white tiger C)Impale D)none of these   ans a

2.The old name of Delhi was ----------------
a) Indrastuptha b)gaya   c) pataliputra d) ayodhya

3. All the electioneering campaign has to end --------------
a) before 48 hrs of polling b) before 48 hrs of commencement of results c) before 36 hrs of polling
d) before 72 hrs of polling

4. In 1590 , when Portuguese first visited the island Taiwan they named it as
a) Taliban b)mayanmar c) forusa(spelling missing) d) none of these

5.According to Indian mythology Ravana was well skilled in playing --------
a) sitar b)sarood c)Harmonium d) fluete

6.which of the following is not a beach in Goa --------------- no idea about options

7.which hindi (b/w) film was first converted to color---------------
a) Moghal E Azam b) Alam Ara c) Satya Harishchandra d) none

8.Which of the following book is not written by Charles Drekens …………………. no idea about
options English related ……………….

9.Escape : Abscond :--------------------------

10.inception : Conclusion :--------------------------

11. the appropriate meaning of Ocular in the following is --------------------

12.Which hand you use to write-----------?   A)about b) on c) in d) with

13. He is in the habit --------------(find) new things   a) in finding b) of finding c) with finding d)to
finding

14.Phoebe was in the car when her phone is ringing ------------------ rewrite the sentence without
changing the meaning

15. She was in the kitchen when the telephone was ringing   ---------------- rewrite the sentence

16. All his friends are older -----------him   a)to b)than c)for d)from

17. you ------------be careful when you want not to be blamed a)have to b) has to c) had to d) none of

these

18. what is the next number in the series . 4, -8,16,-32,64,
a)192 b) 256 c)-128 d)128 ans c

19. odd men out …. 3,5,7,11,12,13,17,19
a) 3 b) 7 c)12 d)19   ans c

20.in the following series which is not correctly fit 7,8,18,57,228,1165,6996
a)7 b)57 c)228 d) none of these ans c

21. odd men out   583, 462, 792,427,132
a) 462 b)427 c) 132 d) 792   ans b

22. if x>y and x2-2xy + y2 -9=0, x +y = 15 …what is the value of x
a)3 b)12 c)10 d)9   ans d

23. how many times in day the hands of a clock are straight
a) 48 b)44 c)22 d) 24   ans b

24.which of the following numbers is divisible by 3,7,9 and 11
a)2079 b) 1266 c)1165 d) none of these   ans a

25.Odd men out sitar, veena, tumpura ,sarood

26. Odd men out   cricket, boxing, golf, tennis, hockey, football, bowling
a) cricket   b)bowling c) golf d) boxing

Three Questions were given on figures like what is the next figure in sequence

Section three ……..Technical Related to digital electronics

27.the radix or base of hexadecimal number system is -----------a) 8 b)16 c)5 d)none of these

28.the no of 1's in the binary representation of the expression 162*9+162*7+16*5+3   are ………….
a)10 b)23 c)6 d)4

29. the no of latches in F/F are -------
a)1 b) 2 c) 3 d)4

30.how many flip-flops are required to construct Mod -12 counter
a)5 b)4 c)12 d)none

31. which logic gate has the output is compliment of its input ----------
a) OR b) AND c)NOT d) X-OR

32.no.of 2-input multiplexers needed to construct a 210 input multiplexer…….
a) 12 b)31 c)20 d)16

33.By adding inverters to the inputs and output of a AND gate we can obtain ……………
a) OR b) AND c)NOT d) X-OR

34.how many NAND gates are needed to realize OR gate --------------
a)1 b) 2 c) 3 d)4

35.which is the first integrated logic family ---------------
a) RTL b)DTL c)TTL d) none of these

36.The advantage of CMOS over TTL are---------------

37.the range of allowable voltages for CMOS are----------------

38.the voltages required to 0 and 1 in TTL family are -----------------

39. Which logic gate has output high if and only if all inputs are low ---------?
a) NOR b)NAND c) X-NOR d)AND

40.According to Boolean algebra 1+A+B+C =
a) A b) A+B+C   c)1 d) none of these

41. If a=0x6db7 and b=0x2ae9 then what is the value of a"b--------------

Questions related to C ……

42.which of the following is not a primitive type in C
a)Int b)Float c) Char d) noneof these

43.If you want to accept variable no of arguments then you have to include which of the following header files
a) Vararg.h b) stdarg.h c) stdlib.h d) stdioh

44. Register variables are stored in ----------------
a) CPU b) main memory c) secondary memory d) peripheral memory

45.what are pointers , when declared , initialized to --------
a) Garbage b)NULL c)0 d) nothing

46.When you divide a program into functions-----------------
a) it is easy to conceptualize and runs faster than usual
b) it is easy to conceptualize
c) it runs faster than actual one
d) none

 47. In order to use a pointer it has to be ----------------
a) declared b) declared and initialized c) no need of declaration d) initialized

48.what is the output of the following program snippet

Int a=6,b=4; Pirntf("%d", a==b);   a) Prints 6 b)prints 0 c)Prints 1 d) prints 6 4

49.what is the output of following code segment Char wer[3][4] = { 'per','max','min'}; Char (*ptr)
[4]=wer; Printf("%d%d",ptr,ptr++);
a)262 262 b)262 263 c)262 265 d0262 266

50.if we give 12345 through scanf what are the values stored at a,b,c Int a,b,c; Scanf("%d%d%d",
&a,&b,&c);
a)a=12, b=34,c=5 b)a=12345 and nothing at b,c c)c=12345 and nothing at a,b d)an error message

51.what is the value stored in S Char s[4]; Scanf("%s", '1234');
a)1234 b) 1 c) garbze d) error

52.what is the output if we give abc through scanf Char x,y,z; Printf("%d",scanf("%c%c%c",
&x,&y,&z));
a) prints 3 b) prints 1 c) error message d) prints nothing

53. A variable declared as " unsigned U" then u is interpreted as
a) unsigned char b) unsigned int c) unsigned float d) the declaration is not possible

54.char c;Printf("%d", c);   prints ----------------
A negative integer b)always positive integer c) garbage d)none

97.What is the output of the following program
Int a=1;
Printf("%d",(a++));
a)1 b)2 c)error message d) none

98.which of the following is incorrect about ++ operator
It is a unary operator b) it can be used in expressions c) left as well as right associative d) can be
overloaded

Questions related to TOC and LP

55.Two languages S and T represented by the regular expressions s=(a+b*) T=(a+b)* then the
relation between them is   a)s

56.The language L={an bn cn /n=1,2,3,4………} is
a) not context free language but its complement is I CF
b) a context free language
c) a context free language and accepted by Push Down Automata
d) a context sensitive language

57.Finite State Automation -----------------device
a) repeater b) acceptor c) divider d) adder

58.The language L={anbn /n=1,2,3,4…………} can be generated from
a) S? ab/aSb/€
b) S? aaSbb/ab

c)S? abb/aSb

d) ab/aSb

58.The regular expression (a/b) generates the set

a) {a} b) {b} c{a,b} d) none

59.The regular expression (a/b)* represents

a) all combinations of a or b and same as (a*b*)*

b) all combinations of a or b and not same as (a*b*)*

c) all combinations of a and b , same as (a*b*)*

d) all combinations of a and b not same as (a*b*)*

60.Context sensitive Languages are ---------

a) super set of context free languages and accepted by Push Down Automata

b) super set of context free languages and accepted by non deterministic PDA

c) Accepted by Turing machines only   d) none of the above statements are correct

61.Any context free Grammar can be converted into

a) Chomsky Normal Form b) GreiBack Normal form c) CNF and GBNF d) none

62. If a grammar is left-recursive and right-recursive to a non-terminal symbol then the grammar is

a) Ambiguous b) Unambiguous c) the information provided is not sufficient to determine d) none

63.FSA can be used to add two Integers -------------

a)TRUE   b) may be TRUE c)FALSE d) may be FALSE

64.context sensitive languages are -----------

a) accepted by push down automata   b) accepted by non-deterministic pushdown automata

c) accepted by 2- way linear bounded automata d) a& c

65.The difference between the Moor and Mealay machines is

a) the former one depends on the present state and present inputs

b) the former one depends on the present state only

c) the later depends on the present state and present inputs

d) the later depends on the present input only

66 An FSA can be stated as -----------

A Turing machine with finite tape, unidirectional moment

A Turing machine with finite tape and bidirectional moment

A Turing machine with finite tape , unidirectional and no repetitions

A Turing machine with infinite tape , unidirectional and no repetitions

67.Recursive Languages are ------------

a) super set of all languages

b) type -8 grammar languages

c) accepted by Turing machine

d) we cant say anything about acceptance

68.which of the following statement is wrong about regular expressions

a) there exists a FSM to accept regular expression
b) there exists a N-FSM to accept regular expression
c) there are no ? symbols in regular expression
d) none

69. Regular expression cannot be used in which of the following
a) construction of text editors
b) design of serial circuits
c) design of compilers
d) finding text patterns

Questions related to hardware and OS

70.the term "memory" is related to
a) input and output b) storage c) ALU d) none

71. which of the following is not a Operating system
a)AIX b)PROLOG   c) WINDOWS d) UNIX

72.The CPU or MPU consists of
a) input and output b) memory c) ALU d) All of the above

73. In a multiprogramming system
a) there are more than one processor
b) program are executed faster than actual
c) used in case of large programs only
d) more programs executed than actual in given time

74.the front side bus (FSB) also called as
a) control bus   b) the processor bus c) PCI bus and processor bus d) none

75.which language is used Artificial Intelligence SYSTEMS
a) Java b) c# c) prolog d) Lisp

76.what is the capacity of Hollerith card when it is in extended state
a) 32kb b) 120 kb c) 240 kb d) 20 kb

77.how many slots are there for UTM device
a)1 b) 2 c) 3 d) 4

78.which part of the computer has the capability to acces memory and manipulate the memory
contents   a) input/output b) cpu d) ALU   d) none

79. the register which is used to locate the address of the operands and restore the contents is
a) memory address register b) memory data register c) instruction register d) none

80.the opcode --------------
a) tells the address of operands b) instructs the processor c) stores the values d) specifies the operation

81.the language first executed by microprocessor is
a) BASIC   b) FORTRAN c) PASCAL d) MODULA

82. which language most suitable for mathematical calculations
a) FORTRAN b) PASCAL c) C++ d) NONE

Questions related to C++ and OOPs they asked around 20 qs on this (5+ related to friend function)

83.the protected members are -------------
a) accessible within the class only b) accessible within the class and derived class c)cannot be accessed outside the class d)can be accessed anywhere

84.By default the access specifier is -------------- a)private b)public c)protected d)none

85. A class is a -----------------
a) a abstract data type b) way of encapsulating data and code c) structure d)………….

86.which function can access the private members of a class ------------
a) any function b) member function of derived class c) friend function of that class d) friend function of derived class

87.In order to access the private members of four classes that function has to be declared as friend of -----------------------
a) any one class b) all four classes c)any three classes d) any two classes

88.when a class is derived from another derived class then that inheritance is called ----------
a) multiple   b) multipath c) hybrid d) multilevel

89.which of the following are correct about A static member function
a) it has only one copy for all instances and it can access constant variables
b) it has separate copy for each instances
c) it cannot operate on constant variable
d)……………………………..

90.you are hiding the data when you are writing
a) a class b) cryptic code c) static function d) ADT

91. In order to declare a member function of one class as a friend of another class we need to use
a) the key word Friend b) the key word friend and scope resolution c) only scope resolution d) nothing

Question s from Discrete mathematics (only 2)

92. there are 100 nodes in a graph . if two nodes i ,j are said to be adjacent then |i-j|=12   or 8.
How many connected components in the above graph a)4 b) 8 c) 12 d) 25

93.in case of a binary tree all parent nodes are having degree 2 and in the child level the child are associated to left . what is the name of the tree   a) full binary tree b) complete binary tree c) threaded binary tree d) none
DAA

94.what is the worst case complexity of bubble sort
a) O(n) b) O(logn) c) O(nlogn) d) O(n2)

95.which of the following sorting technique performs well when the element are in reverse order
a) bubble sort b) insertion sort b) mergesort d) heap sort

96.in which type of searching we can search the element in O(1) time averagely
a) linear search b) radix search c) hash based search d) binary search