Question Paper – for DESD course

Total Questions: 50 Duration: 60 Min.

1. Which from these will be executed faster in C?

A. i++
B. i+1
C. cannot say
D. both have same precedence

2. What is the output of the following program?

```
void main()
{
        extern int i;
        i=10;
        printf ("%d",i);
}
```

A. 10
B. Linker Error
C. Compiler Error
D. 0

3. What may be the output of the following program?

```
#define foo(m, n) m ## n
int main()
{
   printf("%s\n", foo(k, l));
}
```

A. k l
B. kl
C. Compile timer error
D. Undefined behaviour

4. What may be the output of the following program?

```
#include <stdio.h>
struct p
{
   unsigned int x : 2;
   unsigned int y : 2;
};
int main()
{
   struct p p;
   p.x = 3;
   p.y = 4;
```

```
    printf("%d\n", p.y);
}
```

A. 4
B. 0
C. Depends on compiler
D. 2

5.
```
#include <stdio.h>
union temp
{
 int a;
 float b;
 char c;
};
union temp s = {1,2.5,'A'}; //REF LINE
```
Which member of the union will be active after REF LINE?

A. a
B. b
C. c
D. Such declaration are illegal

6. Which of the following ways below is a In order traversal?

A. Root->left sub tree-> right sub tree
B. Root->right sub tree-> left sub tree
C. right sub tree-> left sub tree->Root
D. left sub tree-> root->right sub tree

7. Key value pair is usually seen in

A. Hash tables
B. Heaps
C. Both a and b
D. Skip list

8. The time required in best case for search operation in binary tree is

A. O(n)
B. O(log n)
C. O(2n)
D. O(log 2n)

9. Which of the following ways below is a pre order traversal?

A. Root->left sub tree-> right sub tree
B. Root->right sub tree-> left sub tree
C. right sub tree-> left sub tree->Root
D. left sub tree-> right sub tree->Root

10. According to the ARM Architecture Procedure Call Standard (AAPCS), what is the maximum number of arguments passed to a function to be considered most efficient?

A. 4 Arguments
B. 6 Arguments
C. 8 Arguments
D. 16 Arguments

11. In which type of processor following operation is possible?
memory++

A. RISC
B. CISC
C. RISC and CISC
D. Modified RISC

12. In the case of AVR ATMega 128 how many clock cycles does ADIW takes to execute ?

A. 1
B. 2
C. 3
D. Depends on argument

13. What does following assembler directive do?
.BYTE 10

A. Not valid assembler directive
B. Reserves 10 bytes of memory
C. Reserves 10 bytes of memory and initialize them by 0
D. Reserves 10 bytes of memory and initialize them by garbage

14. Which are synchronous interrupts in the case of AVR ATMega 128?

A. INT0 - INT3
B. INT4 - INT7
C. All interrupts are synchronous only
D. None

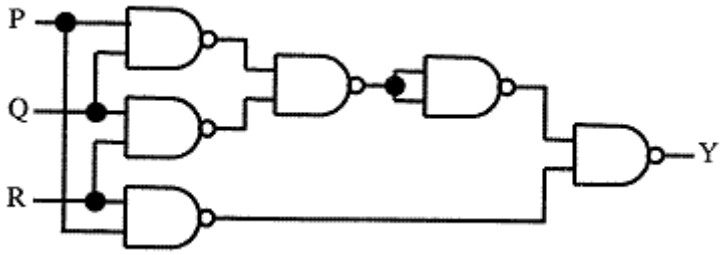
15. What is true for I2C protocol ?

A. I2C gives data integrity check
B. I2C doesn't give data integrity check
C. Data integrity check is involved in NACK
D. Data integrity is not required in I2C

16. In the case of AVR ATMega128 where can Z pointer point ?

A. Data memory
B. Program memory
C. Both A and B
D. Unpredictible

17. The output Y in the circuit below is always "1" when



A. two or more of the inputs P, Q, R are "1"
B. any odd number of the inputs P, Q, R is "0"'
C. any odd number of the inputs P, Q, R is "1"
D. two or more of the inputs P, Q, R are "0"'

18. A voltmeter is used:

A. to measure current
B. in series with the circuit
C. to measure coulombs
D. in parallel with the circuit

19. If the input to a comparator is a sine wave, the output is a

A. ramp voltage
B. sine wave
C. rectangular wave
D. sawtooth wave

20. In a transistor, collector current is controlled by:

A. collector voltage
B. base current
C. collector resistance
D. all of the above

21. The Boolean expression Y=$\overline{AB}$ is logically equivalent to what single gate?

A. NAND
B. AND
C. NOR
D. OR

22. A basic S-R flip-flop can be constructed by cross-coupling which basic logic gates?

A. XOR or XNOR gates
B. AND or OR gates
C. NOR or NAND gates
D. AND or NOR gates

23. The simplified SOP (Sum of Product) form of the Boolean expression $(P+\overline{Q}+\overline{R})\cdot(P+\overline{Q}+\overline{R})\cdot(P+Q+\overline{R})$ **is**

A. $(\overline{P}\cdot Q+\overline{R})$
B. $(P+\overline{Q}\cdot\overline{R})$
C. $(\overline{P}\cdot Q+R)$
D. $(P\cdot Q+R)$

24. Convert the binary number 1001.0010 to decimal.

A. 125
B. 12.5
C. 9.0125
D. 9.125

25. Which one of the following is not true?

A. dynamic allocation of major numbers is not possible
B. major number can not be shared among drivers
C. both (a) and (b)
D. none of the mentioned

26. If we use a driver for various device files, then

A. minor number will be different for every device file
B. minor number will be same for every device file
C. minor number can not be allocated for any device file
D. none of the mentioned

27. The connection between the device file and device driver is based on the

A. name of device file
B. number of device file
C. both (a) and (b)
D. none of the mentioned

28. In linux, a device driver can work without the

A. major number
B. minor number
C. device file name
D. none of the mentioned

29. Sysfs was originally called

A. device driver filesystem
B. kernel interface filesystem
C. kernel filesystem
D. none of the mentioned

30. What is sysfs?

A. it is a virtual filesystem
B. users use it to get the information about the running kernel
C. it is used for exporting kernel objects.
D. all of the mentioned

31. which one of the following is not true?

A. any file of the sysfs can not be edited
B. some files of the sysfs are writable for configuration of devices
C. both (a) and (b)
D. none of the mentioned

32. Sysfs represents the

A. kernel objects
B. Libraries
C. API
D. none of the mentioned

33. The directories of /sys directory

A. are created at system startup when the subsystems register themselves with kobject core
B. are created when any device is connects with the system
C. are created at the time of kernel compilation
D. none of the mentioned

34. To read/write attribute, which one of the following method is required?

A. show
B. store
C. both (a) and (b)
D. none of the mentioned

35. In the case of pipelining what is latency ?

A. Latency = Number of pipelined stages
B. Latency = Number of pipelined stages - 1
C. Depends on architecture
D. None

36. What does following instruction do in the case of ARM7?

LDR r0,[r1],#4
A. error
B. r0 = [r1 + 4]
C. r0 = [r1]
D. None

37. If Program counter points to data memory then ?

A. No change in behaviour
B. Unpredictable behaviour
C. PC will automatically reset to program memeory
D. Data of microprocessor may get affected

38. Which of the following statement is true ?

A. SPI is full duplex
B. I2C is full duplex
C. SPI is half duplex
D. None

39. Which of the following computer memories is fastest?

A. Cache
B. Primary
C. Mass storage
D. Off line back up

40. What is the output of the following code?

```
#include <stdio.h>

int main() {
   int i = 10;
   printf("%d", i++);
   printf("%d", ++i);
   return 0;
}
```

A. 10 11
B. 11 12
C. 10 12
D. 11 11

41. What is the output of the following code?

```
int x = 5;
int *ptr = &x;
x = 10;
printf("%d", *ptr);
```

A. 5
B. 10
C. Compilation Error
D. Runtime Error

42. Von-Neumann architecture is .....

A. Single Instruction Single Data
B. Single Instruction Multiple Data
C. Multiple Instruction Single Data
D. Multiple Instruction Multiple Data

43. An N-bit processor has .....

A: N-bit program counter
B: N-bit address register
C: N-bit ALU
D: N-bit instruction register

44. Which method is used for resolving data dependency conflict by the compiler itself?

A: Delayed load
B: Operand forwarding
C: Pre-fetch target instruction
D: Loop buffer

45. What is the storage class for variable A in below code?

```
int main()
{
int A;
A = 10;
printf("%d", A);
return 0;
}
```

A. extern
B. auto
C. register
D. static

46. What is output of below code?

```
int main()
{
char name[]="CDACKP";
int len;
int size;
len = strlen(name);
size = sizeof(name);
printf("%d,%d",len,size);
return 0;
```

```
}
```

A. 6,6
B. 6,7
C. 7,7
D. 0,0

47. What is the output of the following program

```
main()
{
    int ret;
    ret = fork();
    if (!ret)
    {
        ret = fork();
        printf("c");
    }
    else
    {
        ret = fork();
        ret = fork();
        printf("b");
    }
}
```

A. ccbbbb
B. ccbbccccbbbb
C. ccbb
D. None of the above

48. What is the output of the following program? (Assuming that int is 4 bytes long)

```
int increment ( void)
{
        static  int count = 0x0f;
        return count++;
}
int main() {
        int total;
        total = increment() – increment() * increment();
        printf( “%d”, total);
        return 0;
}
```

A. -290
B –65537
C -257
D -240

49. What does following code performs?.

```
typedef struct node {
        int data;
        struct node *ptr;
} node;
node *abc(){
    node *b,*m,*f;
        b=NULL;
        m=head;
         f=m->ptr;
         if(head==NULL){
            return;
          }
        while(1){
              m->ptr=b;
              if(f==NULL) break;
              b=m;
              m=f;
                  f=f->ptr;
        }
     head=m;
    return head;
}
```

A. Reversing the list

B. Traversing alll nodes of the List

C. Deleting nodes one by one

D. Traversing alternative nodes of the List

50. Which one of the following best describes POSIX call wait()?

A. Pauses for a given amount of time.
B. Waits for parent process to resume or issue an I/O call.
C. Waits for any child process to complete.
D. Waits for any child process to issue an I/O call.