

2010

1. Pick up the correct alternative for each of the following questions.

a. Which of the following is not a valid C identifier?

- i. `_s`
- ii. `1_`
- iii. `S_`
- iv. `_1`

b. What will print when the given sample code is executed?

```
int i=5;
int x=6;
double z;
z=x/i;
printf("Z=%.2f\n",z);
```

- i. `Z=0.00`
- ii. `Z=1.00`
- iii. `Z=1.50`
- iv. `Z=2.00`

c. The maximum value that an integer constant can have is

- i. `-32767`
- ii. `32767`
- iii. `1.7014e+38`
- iv. `-1.7014e+38`

d. Which of the following is wrong

- i. `mes=123.56;`
- ii. `con='T'*'A';`
- iii. `this= 'T' * 20;`
- iv. `3+a=b;`

e. The expression, $a=7/22*(3.14+2)*3/5;$

- i. `8.28`

- ii. 6.28
 - iii. 3.14
 - iv. 0
- f. In stack, insertion and deletion take place at end.
- i. One
 - ii. Two
 - iii. Three
 - iv. None of these
- g. A linked list has memory allocation.
- i. Static
 - ii. Dynamic
 - iii. Namic
 - iv. None of these
- h. A pointer is
- i. The address of a variable
 - ii. An indication of the variable to accessed next
 - iii. A variable for storing addresses
 - iv. The data type of an address variable
- i. Queue works in Manners
- i. FIFO
 - ii. GIGO
 - iii. LIFO
 - iv. None of these
- j. Dynamic memory allocation in C by command
- i. int
 - ii. char
 - iii. malloc
 - iv. free

2. What will be the output of the following programs?

- i.

```
main()
{
```

```
int x=3,y,z;  
y=x=10;  
z=x<10  
printf("\nx=%d y=%d z=%d",x,y,z);  
}
```

```
ii. main()  
{  
int k=35;  
printf("\n%d%d%d",k==35,k=50,k>40);  
}
```

```
iii. main()  
{  
int i=1;  
while(i<=10)  
{  
printf("%d\n",i);  
i++;  
}  
}
```

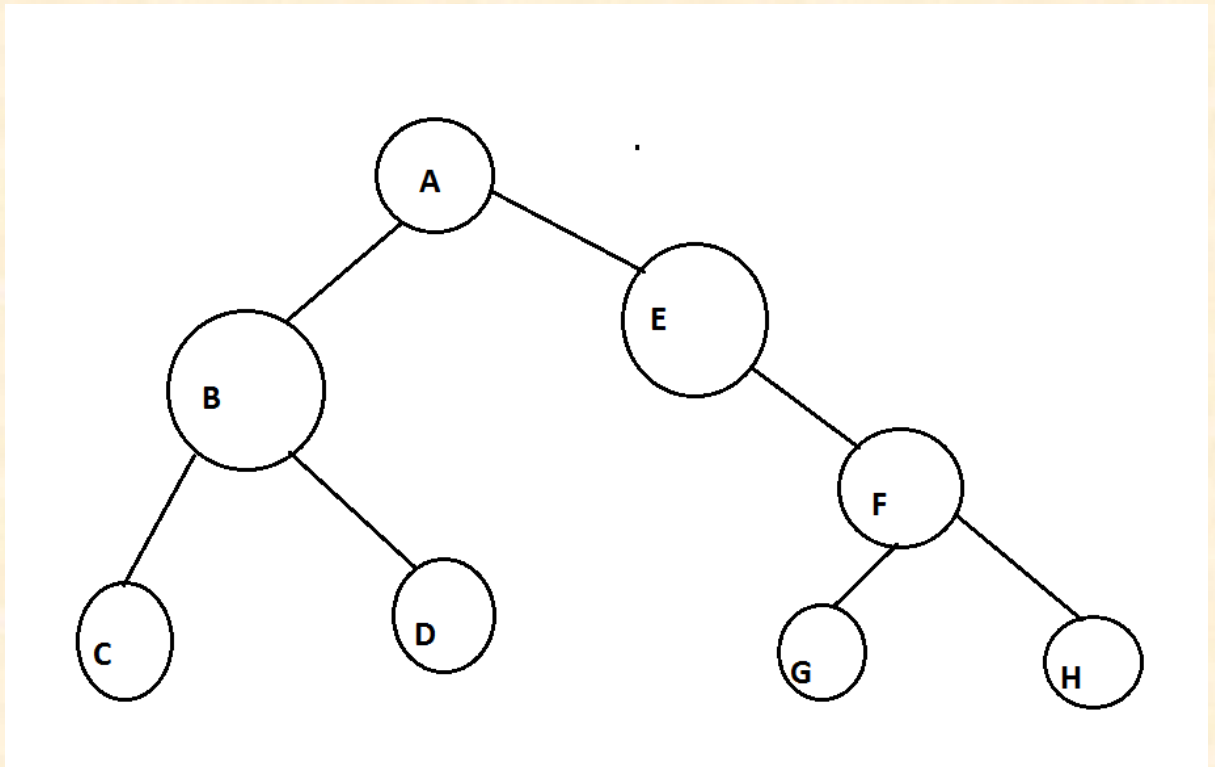
```
iv. main()  
{  
int a=300,b,c;  
if(a>=400)  
b=300;  
c=200;  
printf("\n%d\t%d\t%d",a,b,c);  
}
```

```
v. main()  
{  
int i=1;  
while(i<=10)
```

```
{  
    printf("%d\n",i++);  
    i++;  
}  
}
```

3. (a) Write a program in C to input a number from keyboard and find the sum of the digit.
(b) What are the different types of operator supported by C language?
4. (a) Write a program in C to find the largest of any three numbers.
(b) What are the difference between array and structure? Explain with syntax and example.
5. (a) Write a program in C to check the input number is prime or not.
(b) What are the differences between while and do-while loop? Explain with syntax, flow chart and example.
6. (a) Define Stack. Write an algorithm to PUSH and POP an element into stack?
(b) Consider the following arithmetic infix expression
Q: $(A+(B*C-(D/E^E)*G)*H)$
Transform Q into its equivalent postfix expression.
7. (a) Define Queue. Write an algorithm to INSERT and DELETE an element into queue?
(b) Write an algorithm to search an element from linked list?
8. (a) What is sorting? Define different types of sorting.
(b) Write short notes on any two of the following.
 - 1) Local and Global variables
 - 2) Static and Extern variables
 - 3) Call by value
 - 4) Call by reference

9. (a) What is recursive function? Explain with examples.
(b) Find the in-order, pre-order and post-order traversal of a given tree.



MP U