C Test – Test 3

Total Marks: 30 **Duration:60 min.**

Instructions:

- *Each Question carries 2 Marks*

1. What is the output of below code snippet

```
int main()
{
        static int a[] = {0, 1, 2, 3, 4};
        static int *p[] = {a, a + 1, a + 2, a + 3, a + 4};
        int **ptr = p;
        printf("a = 0x%08x, *a = %d\n", a, *a);
        printf("p = 0x%08x, *p = 0x%08x\n, **p = %d\n", p, *p, **p);
        printf("ptr = 0x%08x, *ptr = 0x%08x\n, **ptr = %d\n", ptr, *ptr, **ptr);
}
```

2. What is the output of below code snippet

```
 int main()
{
        int arr[3][5] = { {1,2,3,4,5} , {6,7,8,9,10} , {11 , 12,13,14,15}};
        int **p  = arr;
        printf("*++p = %d\n" , *++p);
        printf("*p++ = %d\n" , *p++);
        printf("*(p+1) = %d\n" , *(p+1));
        printf("**arr = %d\n" , **arr);
        printf("*(*arr + 1) = %d\n" , *(*arr + 1));
        printf("**(arr + 1) = %d\n" , **(arr + 1));
        printf("*(&arr+1) = %d\n" , (&arr + 1));
        printf("*(*(arr+1)) = %d\n" , *(*(arr + 1)));
        printf("&p + 1 = %d\n" , &p + 1  );
        printf("%d\n", *(*(arr + 2) + 3));
        return 0;
        }
```

3. What is the output of below code snippet

```
int main(void)
{
        int arr[] = {0, 1,2,3,4};
        int *p;
        int i =0;
        for(p = arr; (p + i) <= (arr + 4); p++, i++) {
                printf("%d\n", *(p + i));
        }
        return 0;
}
```

4. What is the output of below code snippet

```
int main(void)
{
        char * mess[] = {"Monday", "Tuesday", "Wednesday", "Thursday"};
        printf (""%d, %d", sizeof(mess), sizeof(mess[1]));
        return 0;
 }
```

5.

```
typedef int (*intarray) [10];
typedef int intarr[10];
intarray a;
intarr b = {1, 2, 3, 4, 5};
int main(void)
{
        a = &b;
        b[5] = 6;
        your code;
        return 0;     }
```

In the above code i) What is the sizeof variable ***a*** ? ii) Using ***a*** print the value of b[5]

6. What is i) dangling pointer ii) wild pointer

7. What will be output of following program?

```
#include<stdio.h>
int main()
{
	int i = 5;
	int *p = NULL;
	p = &i;
	printf("*&p = 0x%08x\n &*p = 0x%08x", *&p , &*p);
	return 0;
}
```

8. What is the output of below code

```
int main(void)
{
	int *num = NULL;
	char *str = NULL;
	float *flt = NULL;
	double *real = NULL;
	printf("size of num = %d\n", sizeof(num));
	printf("size of str = %d\n", sizeof(str));
	printf("size of flt = %d\n", sizeof(flt));
	printf("size of real = %d\n", sizeof(real));
	return 0;
}
```

9. What will be the output of below code snippets?

i)

```
int main()
 {
	char arr[10];
	arr = "world";
	printf("%s",arr);
	return 0;
 }
```

ii)

```
int main()
  {
	char *arr[4] = {"global", "edge", "software", "limited"};
	printf("arr[1] = %s\n", *(arr + 1));
	printf("arr = %s\n", **arr);
	printf("arr + 1 = %s\n", arr + 1);
	return 0;
  }
```

10. Write a declaration which will hold names of all the engineers in your batch.

11. What is the output of the below code

```
int main(void)
{
	int *p = 10;
	p++;
	printf("value of p = 0x%08x\n", p);
	return 0;
}
```

12. What is the output of below code snippet?

```
int main(){
	char *ptr1 = NULL;
	char *ptr2 = 0;
	strcpy(ptr1," c");
	strcpy(ptr2,"questions");
	printf("%s\n%s\n",ptr1,ptr2);
	return 0;
}
```

13. What is the output of below code? Justify

```
int main(void) {
	{char *ptr1 = "hello"
	char *ptr2 = "hello"
	if(ptr1 == ptr2)
		printf("True");
	else
		printf("False");
	return 0;
}
```

14. int *p = NULL;
A source file app.c contains the above snippet. How will you verify the text replaced for NULL?

15. Implement a simple calculator using function pointer with the following operations.
	a. Addition	b. Subtraction	c. Division	d. Modulus