CSE/IT Batch:Hinglish

Programming in C

Strings – 2

DPP-02

[MCQ]

1. Consider the following program:

```
#include<stdio.h>

#include<string.h>
int main()
{
char a[]="GATE_Wallah";
printf("%s\t", &5[a]);
printf("%s", (a+5));
return 0;
}
```

The output is-

(a) Runtime Error
(b) Wallah Wallah
(c) _Wallah _Wallah
(d) Compilation Error

[MCQ]

2. Consider the following program:

```
#include<stdio.h>
#include<string.h>
int main()
  {
    char s[5];
    s="GATE";
    printf("%s",s);
    return 0;
  }
```

The output is-

(a) GATE
(b) G
(c) NULL
(d) Compiler Error

[NAT]

3. Consider the following program:

```
#include<stdio.h>
#include<string.h>
int main()
{
  char *p="abcd";
  char *q="acd";
  int a;
  a=strcmp(p,q)?strlen(p):strlen(q);
  printf("%d", a);
  return 0;
}
```

The output is _____.

[MCQ]

4. Consider the following program:

```
#include<stdio.h>
#include<string.h>
int main()
{
  char * s[5]={"CS", "MECH", "ECE",
  "ELECTRICAL", "CIVIL"};
  char ** p[5]= {s+2, s+4, s+1, s+3, s};
  char ***q=p;
  q=q+3;
  printf("%s",q[-2][-1]);
  q=q-2;
  printf("%c",***q+++1);
  return 0;
}
```

The output printed is-

(a) CSF
(b) ELECTRICALD
(c) CSD
(d) CIVILF

[MCQ]

5. Consider the following program:

```
#include<stdio.h>
#include<string.h>
int main()
 {
     char a[]="GATE2024";
```

```
    char b[9];
    strcpy(b, a);
    printf("%s%d%d",b,strlen(b),sizeof(b));
    return 0;
}
```

The output is –

(a) Compilation Error
(b) GATE202488
(c) GATE202489
(d) GATE202499

[MCQ]

6. Consider the following program:

```
#include<stdio.h>
#include<string.h>
void func(char *ptr)
{
   if((*ptr)!='\0'){
   printf("%c", *ptr);
   func(ptr+2);
  }
}
int main()
{
  func("GATEWallah");
  return 0;
}
```

The output is _____

(a) GTWla
(b) GTWlh
(c) GATEWallah
(d) None of the above

[MCQ]

7. Consider the following program:

```
#include<stdio.h>
#include<string.h>
int main()
{
  char a[]="GATEWallah";
  char *p;
  p=a;
  p+=4;
  *p='\0';
  printf("%s",p);
  return 0;
}
```

The output is-

(a) No output (b) Wallah
(c) \0allah (d) GATE\0allah

[NAT]

8. Consider the following program:

```
#include<stdio.h>
#include<string.h>
int main()
{
    char  *a[]={"GATE",  "Parakram",  "Wallah",
    "Shreshth"};
     char **b[]={a+2, a+3, a+1, a};
     char ***c=b;
     printf("%s", *--*++c+3);
     printf("%s", **++c);
     return 0;
  }
```

The length of the output string is _____.

Answer Key

1. **(b)**
2. **(d)**
3. **(4)**
4. **(b)**
5. **(c)**
6. **(a)**
7. **(a)**
8. **(11)**

Hints and solutions

1. (b)

%s takes the start address and prints until it reaches NULL character.

```
char a[]="GATE_Wallah";
printf("%s\t", &5[a]); Address passed is (a+5).
“Wallah “ is printed.
printf("%s", (a+5)); “Wallah” is printed.
```

Output: Wallah Wallah

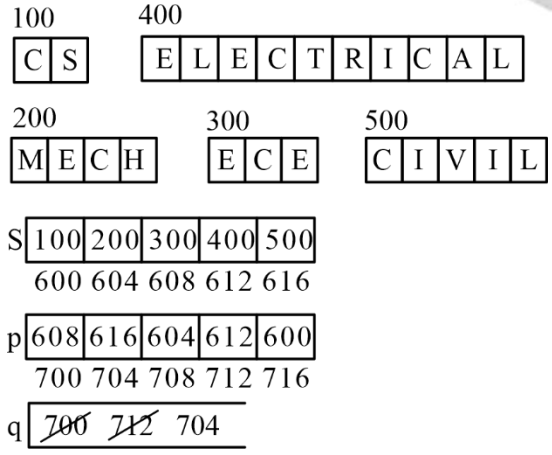
2. (d)

s means the base address of the string.
s="GATE"; // A string “GATE” is being assigned to an address. Incompatible assignment.
Output: Compilation Error

3. (4)

strcmp(p,q) compares the two strings by taking the base addresses as parameters. It returns 0 only if they are equal.
The strings “abcd” and “acd” are not equal. So strcmp(*p,*q) returns a non-zero value.
Since, the condition is TRUE, strlen(p) is assigned to a.
a=4.

4. (b)



q = q + 3
printf (“%s”, q [-2] [-1]);
⇒ *(*(q - 2) - 1)
⇒ *(*704 - 1)
⇒ *(616 - 1)
⇒ *(612)
⇒ 400 ⇒ ELECTRICAL
q = q – 2; // q = 712 – 2 * 4 = 704
printf (“%c”, ***q++ +1);
⇒ ***704 + 1
⇒ **616 + 1
⇒ *500 + 1
⇒ C + 1
⇒ D
∴ Output is: ELECTRICALD

5. (c)

```
char a[]="GATE2024";
char b[9];
strcpy(b, a);// The string a is copied to string b.
printf("%s%d%d",b,strlen(b),sizeof(b));
//strlen(b)=8 and sizeof(b)=9
return 0;
```

Output: GATE202489

6. (a)

100	101	102	103	104	105	106	107	108	109	110
G	A	T	E	W	a	l	l	a	h	\0

func(“GATEWallah”): //Address of “GATEWallah” i.e 100 is passed.
ptr: 100
*ptr or *100==G!=\0
printf("%c", *ptr);//G is printed
func(102) is called. It prints *102 i.e T.
So, similiarly, func(104), func(106), func(108), func(110) will be called.
Output: GTWla

7. (a)

100	101	102	103	104	105	106	107	108	109	110
G	A	T	E	W	a	l	l	a	h	\0

p=100;
p+=4;//p=104
*104='\0'
printf("%s",p);//It will print from 104. 104 contains NULL.
Hence, no output.

8. (11)

100	101	102	103
G	A	T	E

200	201	202	203	204	205	206	207	208
P	a	r	a	k	r	a	m	\0

300	301	302	303	304	305	306
W	a	l	l	a	h	\0

400	401	402	403	404	405	406	407	408
S	h	r	e	s	h	t	h	\0

a:

500	504	508	512
100	200	300	400

b:

600	604	608	612
508	512	504	500
c	~~600~~ ~~604~~ 608		

printf("%s", *--*++c+3);
//*--*++c+3 = *--*604+3 = *--512+3 = *508+3=300+3=303
//'lah' is printed.
printf("%s", **++c);//**608=*504=200
//'Parakram' is printed.
Output: lahParakram
Size of the output string: 11