Character Strings

Q1 What will be the output of the program?

```
#include <stdio.h>
int main()
{
    char *format="%s,a=%d,b=%d\n";
    int a=1,b=10;
    a+=b;
   printf(format,"a+=b",a,b);
   return 0;
}
```

follow format specifications

A. for,"a+=b",ab
B. format,"a+=b"
C. a+=b,a=11,b=10
D. none of the above

Answer: (C)

Q2 What will be the output of the program?

```
#include <stdio.h>
int main()
{
   char a[]="123456789",*p;
   int i=0;
   p=a;
   while (*p)
   {
      if (i%2==0) *p='*';
      p++; i++;
   }
   printf("%s\n",a);
   return 0;
}
```

A. *1*3*5*9*
B. *2*4*6*8*
C. *1*2*3*4*
D. *6*7*8*9*

pointer variable p is assigned to point to the string a
In the whole loop. each character in the string will be checked through *p
When i is even, *p='*'. When i is odd, there is no update.

Answer: (B)

Q3 What will be the output of the program?

```
#include <stdio.h>
int main()
```

```
{
   char a[]="language",b[]="program";
   char *ptr1=a, *ptr2=b;
   int k;
   for (k=0; k<7; k++)
      if (*(ptr1+k) == *(ptr2+k))
         printf("%c",*(ptr1+k));
   return 0;
}
```

A. gae
B. ga
C. language
D. syntax error

In the for loop, it checks character by character in both strings a and b, and prints the characters that exist in both character strings a and b.

Answer: (B)

Q4 What will be the output of the program?

```
#include <stdio.h>
int fun(char a[],char b[]);
int main()
{
   char str1[80]="qwerty";
   char str2[80]="abcd";
   printf("%d\n",fun(str1,str2));
   return 0;
}
int fun(char a[],char b[])
{
   int num=0, n=0;
   while (a[num]!='\0') num++;
   while (b[n])
   {
      a[num]=b[n];
      num++;
      n++;
   }
   a[num]='\0';
   return num;
}
```

A. 10
B. 11
C. 12
D. 13

function fun() finds the length of string a and copies string b to the end of string a. Then the length of concatenated string is computed.

Answer: (A)

Q5 What will be the output of the program?

```
#include <stdio.h>
int fun(char *s,char *t);
int main()
{
   char a[80]="acdef";
   char b[80]="abcd";
   char *p,*q;
   p=a; q=b;
   printf("%d\n",fun(p,q));
   return 0;
}
int fun(char *s,char *t)
{
   for ( ; *s==*t; t++, s++)
      if (*s=='\0') return 0;
   return (*s-*t);
}
```

function compares the two strings character by character and returns the difference between the two characters if they are not the same.

A. 0
B. 1
C. 2
D. 3

Answer: (B)

Q6 What will be the output of the program?

```
#include <stdio.h>
char *f(char *p1, char *p2);
int main()
{
   char a[20]="abcde";
   char b[20]="12345";
   f(a,b);
   printf("%s\n",a);
   return 0;
}
char *f(char *p1, char *p2)
{
   char *p=p1;
   while (*p1) p1++;
   while (*p2) { *p1=*p2; p1++; p2++; }
   *p1='\0';
   return (p);
}
```

in function f(), the pointer variable p is assigned with p1
the first while loop moves the pointer variable p1 to the end of the string. The second while loop copies the contents pointed to by p2 to p1. It means the content pointed by p2 is appended to the end of the character string pointed to by p1

A. ab12
B. abc123

C. abcd1234
D. abcde12345

Answer: (D)

Q7 What will be the output of the program?

```
#include <stdio.h>
#include <string.h>
int main()
{
   int i=0,n=0;
   char s[80], *p;
   p=s;
   strcpy(p,"It is a book.");
   for ( ; *p!='\0'; p++)
      if (*p==' ') i=0;
      else if (i==0) { n++; i=1; }
   printf("%d\n",n);
   return 0;
}
```

A. 1
B. 2
C. 3
D. 4

the for loop traverses the string. If the character pointed to by p is a space, then i=0. else if i==0, then i is assigned to 1 and the variable n is increased by 1. The variable n is used to count the number of words in the string.

Answer: (B)

Q8 What will be the output of the program?

```
#include <stdio.h>
#include <string.h>
int main()
{
   char *s1="AbDeG";
   char *s2="AbdEg";
   s1+=2; s2+=2;
   printf("%d\n",strcmp(s1,s2));
   return 0;
}
```

A. 1
B. -1
C. 0
D. Unpredictable value

program compares two strings.

Answer: (B)

Q9 What will be the output of the program?

```
#include <stdio.h>
int main()
{
   char *str[] = { "Pascal","C language","Python","Cobol" };
   char **p;
   int k;
   p=str;
   for (k=0; k<4; k++)
      printf("%s ",*(p++));
   return 0;
}
```

A. Pascal

B. Pascal C language

C. Pascal C language Python

D. Pascal C language Python Cobol

when k=0, *p is "Pascal"

Answer: (D)

Q10 What will be the output of the program?

```
#include <stdio.h>
#include <string.h>
#define N 6
int main()
{
   char str[N][80]={ "Basic","Fortran","Prolog","Java","C++",
"Python" };
   char *sp;
   int i;
   sp=str;
   for (i=0; i<N; i++)
   {
      if (strlen(sp)<strlen(str[i]))
         sp=str[i];
   }
   printf("%d %s\n",strlen(sp),sp);
   return 0;
}
```

A. 5 Basic

B. 7 Fortran

C. 6 Prolog

D. 4 Java

after assigning str to sp, in the for loop, it traverses the array of strings, compares the character strings in the array of strings and determines the longest string and its string length

Answer: (B)