

DiplETE – ET/CS (NEW SCHEME) – Code: DE53 / DC53

Subject: COMPUTER FUNDAMENTALS & C PROGRAMMING

Time: 3 Hours

Max. Marks: 100

JUNE 2009

NOTE: There are 9 Questions in all.

- Question 1 is compulsory and carries 20 marks. Answer to Q. 1. must be written in the space provided for it in the answer book supplied and nowhere else.
- Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

Q.1 Choose the correct or the best alternative in the following: (2×10)

a. Decimal to Binary conversion of 9 is?

- | | |
|----------|----------|
| (A) 1010 | (B) 1011 |
| (C) 1000 | (D) 1001 |

b. What is an Operating System?

- (A) Input device
- (B) Central processing unit
- (C) Interface between user and computer
- (D) All the above

c. Choose the correct answer?

- (A) INTERNET is LAN
- (B) INTERNET is a Network
- (C) ARPANET followed INTERNET
- (D) None of the above

d. If $Y = 8$, the value of $X = (-Y) + 5$ is

- | | |
|--------|--------|
| (A) 10 | (B) 12 |
| (C) 11 | (D) 13 |

e. Which of the following statements is used to take the control to the beginning of the loop?

- | | |
|--------------|-----------------------|
| (A) exit | (B) break |
| (C) continue | (D) none of the above |

f. When `int B[2][3] = {5, 6, 7, 8, 9, 6}` ;
What will be the value of `B[1][3]`?

- | | |
|-------|-------|
| (A) 5 | (B) 7 |
| (C) 8 | (D) 6 |

g. Arrays are passed as arguments to a function by?

- | | |
|----------------------------|-----------------------|
| (A) Value | (B) Reference |
| (C) Both (A) and (B) above | (D) None of the above |

h. Opening a file:

```
FILE *p ;  
p = fopen ( "amps", "a" );
```



```

{
int A = 1246, B = - 5436 ;
float C = - 123.1246, D = 1347.13 ;
double E = - 136.1234467809 , F = 136123446.7809 ;
printf("Values are:\n");
printf("\n");
printf("A = %d B = %d \n", A, B);
printf("%f %f\n", C,D);
printf("\n");
printf("13234557510\n");
printf("\n");
printf("E = %e F = %e \n", E, F);
}

```

Q.6 a. In what ways does a switch statement differ from an if statement? **(3)**

b. Find errors, if any, in the following program segment:

```

if (code > 1);
a = b+c
else
a=0

```

(3)

c. Salary structure of a company is given below. Write a program in C to derive salary of a desired category of worker **(10)**

Worker	Experience Years	Qualification	Salary
Skilled	More than 5	ITI	11000
	More than 5	HSec	8000
	Less than 5	ITI	7000
	Less than 5	HSec	5000
Semi Skilled	More than 5	ITI	9000
	More than 5	HSec	6000
	Less than 5	ITI	5000
	Less than 5	HSec	4000

Q.7 a. Define an array. Explain the need for array variables. **(4)**

b. Describe the limitations of using getchar and scanf functions for reading strings. **(4)**

c. Write a program to find the greatest number and its position in the following Array;

```
Array[6] = { 2, 5, 3, 8, 6, 4 } ;
```

Print the maximum number and its position. **(8)**

Q.8 a. The function main() is a user defined function. How does it differ from other user defined functions? **(4)**

b. Distinguish between the following:

(i) Actual and formal arguments.

(ii) Global and local variables. **(6)**

c. Write a function 'prime' that returns 1 if its argument is a prime number and returns zero otherwise.

(6)

- Q.9**
- a. What is a pointer? How is it initialized? (4)
 - b. Explain the difference between 'call by reference' and 'call by value'. (5)
 - c. How does an append mode differ from a write mode? (4)
 - d. What is the significance of EOF? (3)