

MCA/PGDCA 1ST SEMESTER EXAMINATION, 2013

Subject : **Computer Science**

Paper - III : Computer Programming (theory)

Time : 2 Hrs

Full Marks : 50

1. Answer any three questions from the following 3×2 = 6

(a) What is the output of the following programme if the address of 'q' is 2801 and p is 2600

```
int q, *p, n;
```

```
q = 113;
```

```
p = &q;
```

```
n = * p,
```

```
Printf ("%d", n);
```

(b) What is the output of the following programme

```
main U
```

```
{
```

```
    int d = 1
```

```
    do
```

```
        Printf ("%d\n", d++);
```

```
    While (d <= 9);
```

```
}
```

(c) If $a = 100$ and $b = 4$ then determine the result of the following

(i) $a+ = b$

(ii) $a\% = b$

(d) What is 'malloc ()' function?

(e) What is difference between 'getc ()' and 'fgetc ()' function?

2. Answer the following questions (any three)

$3 \times 4 = 12$

(a) Compare the following pairs of statement with respect to their syntax and function :

(i) break and continue

(b) Differentiate between the following :

(i) Global variable and local variable

(c) Using suitable example differentiate the following string handling function :

Strcmp () and strcpy ()

(d) Write a structure definition to hold employee related information such as employee ID, name, grade, basic pay and gross salary.

3. Answer the following (any two)

$2 \times 6 = 12$

(a) Design an algorithm to generate all the prime number in the first 'n' positive integers.

(b) Write a C programme that reads the text and counts all occurrences of a particular word.

(c) What is the necessity of a 'return' statement in a C programme? When is it necessary and when is it a must? Illustrate by giving proper example.

(d) Differentiate between pointer (*) and address (&) operator using examples.

4. Answer the following (any two)

$2 \times 10 = 20$

(a) What is recursion? Write a recursive programme to reverse a string.

(b) What are multidimensional arrays? Using multidimensional array, write a programme in C to sort a list of names in alphabetical order.

(c) Explain the concept - Call-by-value and Call-by-reference with suitable example.

(d) What is the difference between a function declaration and a function definition? Write a C-programme using function for addition of two matrices.

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