



Printed Pages : 8

MCA113

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 7303

Roll No.

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M.C.A

(SEM I) ODD SEMESTER THEORY EXAMINATION 2009-10
COMPUTER CONCEPTS AND PROGRAMMING IN C

Time : 3 Hours]

[Total Marks : 100

Note : *Question Paper carries three Sections. Read the instructions carefully and answer accordingly.*

SECTION - A

- 1 This question contains 20 objective type / **20×1=20**
Matching / Fill in the blank / True - False
type questions. Choose / matter / Fill / True or
False correct answer.
- (a) Which of the following is an example of
application software ?
- (i) Database Management System
 - (ii) Language Translator
 - (iii) Operating System
 - (iv) Security Monitor
- (b) The tool used by the programmer to comment
a source program to a machine object
modulus is a



- (i) Compiler
 - (ii) Language Translator
 - (iii) Linear
 - (iv) Preprocessor.
- (c) The conversion specification that is used to record or write a short integer is
- (i) %d
 - (ii) %f
 - (iii) %hd
 - (iv) %Lf
- (d) Which of the following is not a valid identifier in C ?
- (i) A3
 - (ii) 4A
 - (iii) if
 - (iv) 1F
- (e) Which of the following is not a unary expression
- (i) ++X
 - (ii) -- X
 - (iii) Sizeof (X)
 - (iv) +5
- (f) Match the following :
- | | |
|--------------------|----------------------------------|
| (i) Linux | (i) Single user Multitasking |
| (ii) Window XP | (ii) Multiuser multitasking |
| (iii) DOS | (iii) single user single tasking |
| (iv) Novel Network | (iv) multiuser single tasking |



(g) Which of the following is not a part of a function header ?

- (i) name
- (ii) parameter list
- (iii) return type
- (iv) title

(h) What would be the output of following program ?

```
main ( )  
{  
int t = 2;  
printf ("d\n%d%d", ++i, ++i)  
}
```

- (i) 3 4
- (ii) 4 3
- (iii) 4 4
- (iv) Output may vary from computer to computer.

(i) What error would the following function give on compilation ?

```
f (int a, int b)  
{  
int a;  
a = 20;  
return a;  
}
```

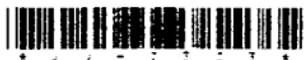


- (i) Missing parentheses in return statement.
 - (ii) The function should be defined as `int f (int a, int b)`
 - (iii) Redclaration of a
 - (iv) None of the above.
- (j) What would be the output of the following program ?

```
main ()  
{  
char str[7]="strings";  
printf ("%s", str);  
}
```

- (i) Error
 - (ii) Strings
 - (iii) Cannot predict
 - (iv) None of these.
- (k) In the following code :

```
# include (stdio h)  
main( )  
{  
FILE *fp;  
fp=fopen ("trial", "%");  
}  
fp points
```



- (i) The first character in the file.
 - (ii) A structure that conditions a char pointer which points to the just character in the file.
 - (iii) The name of the file
 - (iv) None of the above.
- (l) Which of the following is not unary expression :
- (i) ++x
 - (ii) sizeof(x)
 - (iii) +5
 - (iv) x=4
- (m) Which of the following is not part of a function header ?
- (i) name
 - (ii) parameter list
 - (iii) return type
 - (iv) title.
- (n) One example of external DOS command is _____.
- (n) Structure is _____ data type in C.
- (p) Compiler is a program that converts a high level language into low level language only (True / False).
- (q) Associativity is a term related to operand. (True / False)
- (r) Is function may have several declaration but only one definition. (True / False)

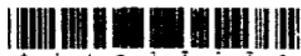


- (s) $j = i++$ and $i++$ is a legal assignment in C. (True / False)
- (t) The expression on the RHS of 22 and 11 operator does not get evaluated if the LHS determines the output. (True / False).

SECTION - B

Attempt any **three** parts of the following : $10 \times 3 = 30$

- (a) (i) Define an operating system and explain multitasking.
- (ii) Convert the following as stated below
- (1) $(118.125)_{10}$ to $(\quad)_2$
 - (2) $(1110011.101)_2$ to $(\quad)_{10}$
 - (3) $(2110)_{10}$ to $(\quad)_8$
 - (4) $(3075.06)_8$ to $(\quad)_2$
 - (5) $(5F \ \& \ E.4A3C)_{16}$ to $(\quad)_{10}$
- (b) (i) Explain the concept of structured programming.
- (ii) What are the various data types used in C language ?
- (c) Differentiate between user defined and library functions, with one example for each. Write C program for factorial evaluation.



- (d) (i) Draw a flow chart for checking an integer for prime number and write algorithm.
- (ii) What are the rules for naming identifiers in "C" ? What do you understand from reserved Lay words ?

SECTION - C

Note : Attempt **all** questions :

3 Attempt any **two** parts of the following : **5×2=10**

- (a) How does a if-then else structure differ from switch structure. Explain with example.
- (b) Write a C program to generate first n prime numbers.
- (c) Explain the following :
- (1) goto
 - (2) break
 - (3) continue
 - (4) exit.

4 Attempt any **two** parts of the following : **5×2=10**

- (a) Explain difference between call by value and call by reference by suitable example.
- (b) Write a C program to find greatest common divisor of 3 numbers n_1 , n_2 and n_3 using user defined function $\text{gcd}(n_1, n_2, n_3)$.



- (c) Differentiate between local and global variables with appropriate examples.

5 Attempt any **two** parts only : **5×2=10**

- (a) What do you mean by an array ? In what way array is different from an ordinary variable ?
- (b) Write a C program to find transpose of a matrix of order $m \times n$.
- (c) How can a list of strings be stored within a two dimensional array ? How can individual string be processed ? Explain with suitable example.

6 Attempt any **two** parts : **5×2=10**

- (a) What is a pointer ? Discuss the applications of pointers and list the disadvantages of them.
- (b) Write a program in C to find the length of a string using a pointer.
- (c) What is dynamic memory allocation ? How does it help in developing complex programs ?

7 Attempt any **two** parts only : **5×2=10**

- (a) Distinguish between an array and a structure. Give example.
- (b) How can the size of a structure be determined in C ? How does it differ from union ?
- (c) Describe different types of linked lists with examples.

