

1E1024

Roll No. : _____

Total Printed Pages : 3

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B. Tech. (Sem. I) (Main/Back) Examination, January/February - 2011
Computer Programming & IT
(Common to all Branches of Engg.)

Time : 3 Hours]

[Total Marks : 80
[Min. Passing Marks : 24

Attempt overall five questions.

All questions carry equal marks.

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. _____ Nil 2. _____ Nil

- 1 (a) Design and explain the architecture of computer. 8
- (b) What is difference between ROM and PROM? 8

OR

- 1 (a) What do you mean by Language Translators? Explain with example. 8
- (b) Write difference between high level, assembly and machine language. 8
- 2 (a) Calculate r's and (r-1) complement of $(42)_{10}$. 4
- (b) Convert $(1000)_2$ to Gray code. 4



(c) Represent the following numbers in sign magnitude, 1's complement and 2's complement representation. Assume word length = 16 bits :

(i) $(+34)_{10}$

(ii) $(-38.2)_{10}$

(iii) $(-76.8)_{10}$

(iv) $(+45)_{10}$

8

3 (a) Write a program of add two numbers and explain this program step by step with the help of flow chart.

8

(b) What are the data types in C? Explain with examples.

8

OR

3 (a) What are the advantages and disadvantages of C language?

8

(b) What is the difference between Constant and Variable?

8

4 (a) Write a program to check the input number is prime or not.

5

(b) What is difference between while and do-while loops?

5

(c) Write a program in C to print the sum of the following series :

$$x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \dots$$

OR

4 (a) Explain Memory allocation for 2-D arrays.

8

(b) Explain the function fopen() used to open a file in C. What are the difference modes associated with fopen()? Explain meaning of each one.



- 5 (a) Write a program to read a character and check whether it is vowel or not? 8
- (b) What is the difference between pointer and structure? 8

OR

- 5 (a) What do you mean by function? How many types of functions are available in C? 8
- (b) Write a program to swap two numbers using pointer. 8

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