

1E1024	Roll No. : _____	Total Printed Pages : <span style="border: 1px solid black; padding: 2px;">3</span>
	1E1024	
	<b>B. Tech. (Sem. I) (Main/Back) Examination, January/February - 2011</b> <b>Computer Programming &amp; IT</b> <b>(Common to all Branches of Engg.)</b>	

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



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(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