| 4 | Roll No. :  | Total Printed Pages : 3 |  |
|---|---|-------------------------|--|
| 6 | 1E1024  |                         |  |
| - | B. Tech. (Sem. I) (Main/Back) Examination, January/February - 2011<br>Computer Programming & IT |                         |  |
|   | (Common to all Branches of Engg.)   |                         |  |

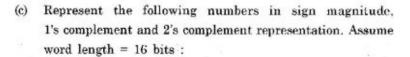
Time: 3 Hours]

[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  |       | NII                                    | 2  | Nil                       |
|----|-------|--|--|---------------------------|
| 1  | (a)   | Design and explain th                  | se erchitectur                               | o of computer             |
| •  | (a)   | Design and explain in                  | ic arciniccius                               | 8                         |
|    | (b)   | What is difference be                  | tween ROM a                                  | and PROM?                 |
|    |       |  |  | 8                         |
|    |       | -24                                    | OR   |                           |
| 1  | (a)   | What do you mean by example.           | Language Tr                                  | ranslators? Explain with  |
|    |       |  |  | 8                         |
|    | (b)   | Write difference betwee language.      | een high level                               | l, assembly and machine   |
|    |       |  |  | 8                         |
| 2  | (a)   | Calculate r's and (r-1                 | ) complement                                 | t of (42) <sub>10</sub> . |
|    |       | 90000090000000000000000000000000000000 | #. (1.1.2.100 to ₹. (1.1.2.100 to 1.0.100 to | 4                         |
|    | (b)   | Convert $(1000)_2$ to Gr               | ray code.                                    |                           |
|    |       |  |  | . 4                       |
| 1E | 1024] |  | 1  | [Contd                    |



- (i) (+34)10
- (ii) (-38.2)<sub>10</sub>
- (iii) (-76.8)<sub>10</sub>
- (iv) (+45)<sub>10</sub>

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 :

$$x - \frac{x^3}{31} + \frac{x^5}{5!} - \frac{x^7}{7!} + \dots$$

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.

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[Contd...

5 (a) Write a program to read a character and check whether it is vowel or not? 8 What is the difference between pointer and structure? (h) 8 OR What do you mean by function? How many types of functions 5 (a) are available in C? 8 Write a program to swap two numbers using pointer. (b) 8