



Printed Pages : 3

PHAR – 124/PH – 124

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

PAPER ID : 1056

Roll No.

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B. Pharm. (Sem. II)

SPECIAL CARRYOVER EXAMINATION, 2006-07

COMPUTER FUNDAMENTALS AND PROGRAMMING

Time : 3 Hours]

[Total Marks : 80

Note : Attempt *all* questions.

1. Answer any **two** of the following : **4 × 2**

- (a) Draw a block diagram to illustrate the basic organisation of a computer system and explain the functions of various unit.
- (b) What is the function of the storage unit of a computer system ? How many types of storage are there in storage unit ? Justify the need for each storage.
- (c) What do you understand by the term 'software of computer' ? Define the terms systems software and application software.

2. Answer any **two** of the following : **4×2**

- (a) Define flow-chart. Explain the necessity of flow-chart in programming.
- (b) Give an algorithm to check whether a number is prime or not.
- (c) Draw a flow-chart to print the sum of even numbers of a set of natural numbers.

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3. Answer any **four** of the following : **4×4**

- (a) Define the following terms with example in C language :
 - (i) Keyword
 - (ii) Unary operator
 - (iii) Break statement
 - (iv) Double constant.
- (b) Give the general formats of input and output statements in C. Give example for each.
- (c) Write a complete C-program to find the sum of cubes of the digits of a 3-digit number.
- (d) The following are the Fibonacci numbers : 0, 1, 1, 2, 3, 5, 8, 13, 21..... Write a C-program to print all the Fibonacci numbers less than 50.
- (e) How can you declare an array in C-Language ? Write a program to find the sum of elements of each row of a matrix of order 5×4.

4. Answer any **four** of the following : **4×4**

- (a) What do you mean by FORTRAN variables ? Which of the following are valid FORTRAN integer variables ? If it is invalid, give the reason :
 - (i) NEXT ;
 - (ii) INPUT ;
 - (iii) FIRST
 - (iv) J+22.
- (b) Write a FORTRAN program to solve a quadratic equation,
 $ax^2 + bx + c = 0$; where a , b and c are real constants.
- (c) Write a program to find the value of

$$1 + \frac{1}{2^2} + \frac{1}{3^2} + \frac{1}{4^2} + \dots + \frac{1}{30^2}$$

- (d) Write a FORTRAN program to find the mean and standard deviation of N numbers. Let a_1, a_2, \dots, a_N

are the numbers. The Mean = $\sum_i^N a_i$;

$$\text{standard deviation} = \sqrt{\frac{\sum a_i^2}{N} - (\text{mean})^2}$$

- (e) What do you mean by X format and/(slash) format in FORTRAN ? If

$A = 145.78, B = 18.4; I = 95$, Describe the output of the following statements :

- (i) Write (*, 5) A, B, I
5 FORMAT (F 10.5, F 4.1, I2)
- (ii) Write (*, 10) I, B, A
10 Format (I2, 'A=', F5.2, 2×, F4.2).

5. Answer any four : 4×4

- (a) What is a database model ? Name four commonly used database models and describe any two.
- (b) If a new type of data is to be added to an existing relational database, it is not necessary to redesign the database afresh. Discuss this statement with an example.
- (c) Explain with an example how 'Find' command can be used for making the database query.
- (d) Explain with an example how database can be used to tackle a drug related problem.
- (e) List out three commonly supported features in modern database system that may be used for searching desired information from a database.