

PGDCA / MCA (I Yr) / BCA**Term-End Examination****December, 2007****CS-03 : FILE STRUCTURE AND
PROGRAMMING IN COBOL***Time : 2 hours**Maximum Marks : 60*

Note : *Question number 1 is **compulsory**. Answer any **three** questions from the rest.*

1. (a) Write a program in COBOL which searches for a specified data value of character type with size 5 characters in a two dimensional array of COBOL. 8
- (b) What is the purpose of LABEL RECORD statement in COBOL ? Can this statement be omitted ? Justify your answer. What is the purpose of level 77 in COBOL ? Explain with an example. 7
- (c) What is an equivalent construct for "While loop" in COBOL ? Write the syntax of it and explain with an example. 5

- (d) Write a program in COBOL to create an index sequential file from the following input records (make suitable assumptions, if any)

Input File Format : (Monthly Data)

1 – 5 : Employee Number

6 – 25 : Employee Name

26 – 28 : Working-Hours (Regular)

29 – 31 : Payment Rate

32 – 34 : Overtime Hours

The file is used to generate following two types of reports :

- (i) Details of monthly gross pay of all the employees.
- (ii) Estimating tax of a given employee number

These should be calculated according to the following formulae :

- $$\text{Gross pay} = (\text{Regular Working Hours} \times \text{Payment Rate}) + (\text{Overtime Hours} \times 1.5 \times \text{Payment Rate})$$
- Tax Computation Annual :

| Gross Pay (Annual) | Tax (Annual) |
|---------------------------|-------------------------|
| Between 1 lakh to 5 lakhs | 10% of Annual Gross Pay |
| Above 5 lakhs | 20% of Annual Gross Pay |

2. (a) Explain various types of MOVE statements in COBOL with the help of an example for each. 5
- (b) Write a program in COBOL that will take a 2-digit number from the keyboard and display the equivalent words (number names) on the screen.
- e.g. If program takes 92 as an input then output should be "ninety two". 5

3. Write the data and procedure division of a COBOL program which takes input from a file containing value of a, b and c and outputs the roots of the quadratic equation " $ax^2 + bx + c = 0$ ".

Note : The formula for finding roots of a quadratic equation is

$$(x) \text{ roots} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad 10$$

4. How are records stored in the relative file organisation ? Write the syntax and entries of procedure division statements for relative file organisation. 10
5. (a) A university has 300 students in its B.Sc. (Computer Science) programme. To successfully complete this programme each student has to pass at least 13 courses out of 15 courses. Write a program in COBOL to store the data in memory as an array and declare the result as successful or unsuccessful, where minimum passing marks are 50% in all the courses. 6

(b) Mention the use and give the syntax format for each of the following COBOL Statements/Verbs/Clauses with help of an example :

4

(a) SYNCHRONIZED

(b) PERFORM