

## III BCA – IV Semester

### COBOL LAB

NOTE: Students are expected to practice programs based on the following topics. For every topic a sample problem is given. Students should note that they shouldn't restrict themselves to only to the given problems. They are purely meant for practice purpose alone. The question paper for the lab exam will be based on the following concepts and not on the problems given below. Students are advised not to use files for all the programs unless or otherwise it is explicitly mentioned in the problem or the problem is a file oriented problem. Students can create a file in the editor itself unless otherwise they are asked create a file explicitly using a create program. For more practice problems students can refer to books and previous year question papers.

#### **1. Multiple IF statements**

**Practice Problem:** A program is written for the calculation of telephone bill. The charges for the calls are as follows:

<b>Units</b>	<b>Call cost/Unit</b>
Below 100 calls	No Charge, only rent of 250 Rs.
100 – 150	0.80 paise
150 – 300	Rs. 1.50
300 – 600	Rs. 3.50
Above 600	Rs. 5.00

#### **2. Looping construct**

**Practice Problem:** Write an interactive program to calculate compound interest with the keyboard inputs, Principal, Annual Interest rate, and maximum number of years. Print the compound interest for each year upto the maximum number of years. Test your program with principal amount Rs.30,000 and Rs.60,000 at 6.25% for 5 years.

#### **3. Basic file handling**

**Practice Problem:** Create an examination marks file containing the fields student name, roll number and marks of five subjects. Write a COBOL program to obtain the average marks of each student along with average marks in each subjects, the average of the entire group in all subjects and the name and marks of the student scoring the highest in each subjects.

#### **4. File Conversion – Sequential to Indexed**

**Practice Problem:** Write a program to convert a sequential file into indexed sequential file containing information about medicines with medicine code, name, manufacturer name, price, strength of the medicine(in mg), alternate medicine if any.

#### **5. Record Sorting**

**Practice Problem:** Write a program to prepare a telephone directory of a company grouped by temporary and permanent employees. Sort the records with respect to their profession within each group and within area of living and print the list with headings.

#### **6. Record Searching**

**Practice Problem:** The salesperson records containing Region Code, Territory code and salesperson name. Write a program to search the file with either or all the fields of the record. For example, if a Region Code is given then all the salesperson in that region has to be displayed. If a salesperson name is given it should display the Region code and Territory code of the salesperson. If Region code and Territory code is given it should display all the salespersons in that Region code and Territory code.

#### **7. Computations on a Line Sequential File**

**Practice Problems:** A company sells three categories of products called A, B, C. The sales tax on category A is 6%, on category B is 4.5% and on category C is 5%. A Line Sequential file contains details about the product. Write a COBOL program that reads the cost price and category of a product and prepare a cash bill with sales tax.

#### **8. Multiple File Handling**

**Practice Problem:** A company maintains 2 different files for employees that contain their job details and personal details separately. Write a COBOL program that prints complete details of all the employees.

#### **9. Indexed File Handling**

**Practice Problem:** Create an Indexed sequential file with the fields ProductID, Product Description, Unit price, Quantity on hand. Another Line sequential file contains details about ordered/sold quantity. Update the Indexed sequential file based on the information in the Line sequential file.

## **10. Control Break (not more than two levels)**

**Practice Problem:** A gas company maintains the details of their customers with the following fields, Consumer ID, Consumer Name, Consumer Area, Delivery Person ID, Delivery Person Name, date of delivery. You are expected to calculate the total cylinders delivered on date by each Delivery Person within each area. Assume that there are four areas namely East, West, North and South. Also assume that a person belonging to an area will never attend other areas.