VIT UNIVERSITY
(Estd. u/s 3 of UGC Act 1956)

SCHOOL OF INFORMATION TECHNOLOGY & ENGINEERING
FALL SEMESTER 2013-14
PROGRAMMING IN JAVA (LABORATORY) – ITA 418
CYCLE SHEET

LIST OF EXPERIMENTS

1. SIMPLE JAVA PROGRAMS

    i. Write a program to check if a number is perfect number or not. [perfect number: sum of factors equals to number itself].

    ii. Write a program to check if given 2 numbers are co-prime or not. [co-prime: GCF=1]

    iii. Write a program to convert the given decimal to binary number.

    iv. Write a program to calculate $15C_4$.

    v. Write a program to calculate the relative grading for a subject for 25 students.

    vi. Write a program to print stars to form a diamond shape.

    vii. Write a program to calculate the total amount yielded by a PPF account for the given premium amount (per annum) @ 8% for 25 years compounded annually.

    viii. Write a program to calculate the total bill amount for every item purchased by a customer with a discount of 10% if item price greater than 300 and 12% VAT has to be added on the cost of each item.

    ix. Write a program to convert the given binary to decimal number.

    x. Write a program to produce an ‘n’ times table. Eg: For n=5, output is (1,2,3,4,5), (2,4,6,8,10), (3,6,9,12,15,18), (4,8,12,16,20), (5,10,15,20,25)

2. ARRAY

    i. Write a program to implement stack’s push operation using an array.

    ii. Write a program to implement stack’s pop operation using an array.

    iii. Write a program to implement queue’s insert operation using an array.

    iv. Write a program to implement queue’s delete operation using an array.

    v. Write a program to implement dequeue’s insert operation (randomly at both ends) using an array random.

vi. Write a program to implement dequeue's delete operation (randomly at both ends) using an array.

vii. Write a program to sort an array using bubble sort.

viii. Write a program to sort an array using selection sort.

ix. Write a program to search for an element in an array using binary search.

x. Write a program to reverse the elements of an array.

3. CLASS AND OBJECT

i. Write a class employee and implement the payroll methods for various employee types.

ii. Write a class student and implement the grade calculation method.

iii. Write a class bank and implement deposit and withdrawal.

iv. Write a class library and implement issue and return methods.

v. Write a class supermarket and implement purchase and billing methods.

vi. Write a class theatre and implement booking and cancellation methods.

vii. Write a class bus and implement booking and cancellation methods.

viii. Write a class train and implement booking and cancellation methods.

ix. Write a class flight and implement booking and cancellation methods.

x. Write a class inventory and implement supply and order methods.