



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
ANNA UNIVERSITY, CHENNAI – 600025



ASSESSMENT (PRACTICALS)
SESSION (SEPTEMBER - DECEMBER 2021)
CS6110 – OBJECT ORIENTED ANALYSIS AND DESIGN
REGULATIONS (RUSA- R2018)

ANSWER ALL QUESTIONS

B.E. CSE – V-SEM

Max. Marks: 25M

Duration: 1.5 hrs.

Question-1: Draw your rough designs in the answer sheet provided and then use any case tool of your choice for the Question-1:

Question-2: Write your answers in the answer sheets provided.

1. Reverse engineer the following Java code and present the best approximating **Class model** and a **Sequence Model**. (10)

```
import java.util.Scanner;
public class Ncr{
    public static void main(String args[]) {
        Scanner scan = new Scanner(System.in);
        System.out.print("Enter Value of n : ");
        int n = scan.nextInt();
        System.out.print("Enter Value of r : ");
        int r = scan.nextInt();
        Computnrcr ob2=new Computnrcr();
        ob2.ncr(n,r); }}

```

```
public class Computnrcr{
    public void ncr(int n, int r){
        Fact1 f1=new Fact1();
        int a=f1.fact(n);
        int b=f1.fact(r);
        int c=f1.fact(n-r);
        System.out.print("NCR = "
        +(a/(b*c))); }
}

```

```
public class Fact1{
    public int fact(int num) {
        int fact=1, i;
        for(i=1; i<=num; i++)
        { fact = fact*i; }
        return fact; }
}

```

2.

Identify the **use cases, classes, attributes, operations, relationships, CRC card** for the following and present a basic **CLASS DIAGRAM**: (15)

Note: you can also use terms/labels which are not part of the description below for achieving completeness in the design.

The system is to be used primarily by **Faculty members** of an Academic Department. Other users include **HOD** and **External Examiner**. HOD oversees the whole process and assigns the responsibilities to the faculty members as supervisors, committee members and also appoints external examiner (Faculty from other institutes) for the final viva-voce and generates reports as and when needed. Faculty members act as Mentors, Committee members.

Students of a class of 60 have to form 3 member teams, for their project. 1 or 2 teams can have 4 members in-case of uneven student strength. There are 3 internal reviews and one final viva-voce examination. Each faculty mentor can have maximum of 3 teams or a minimum of 1 team to be mentored. For internal reviews, marks are awarded by the project

committee comprising of 3 Faculty Members and the mentor and project teams are evaluated for a total of 50 marks. An external examiner evaluates their project in their final viva-voce for 50 marks. Teams which score a minimum of 50% marks in final viva-voce exam and an overall score of minimum 50 only will be declared pass.
