POLYTECHNIC, B.E/B.TECH, M.E/M.TECH, MBA, MCA & SCHOOL

Notes   *Available @*
Syllabus
Question Papers   www.binils.com
Results and Many more…

Reg. No. :

Question Paper Code : 50429

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023

Fourth/Fifth Semester

Computer Science and Engineering

CS 8494 – SOFTWARE ENGINEERING

(Common to Computer and Communication Engineering / Computer Science and Business Systems / Information Technology)

(Regulations 2017)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List out key challenges in software engineering.

2. Define legacy software.

3. Differentiate between functional and non-functional requirements.

4. Differentiate evolutionary and incremental prototype.

5. How inheritance is referred in class based modeling?

6. What is abstraction?

7. Distinguish between white box and black box testing.

8. Depict the reverse engineering process.

9. How the Budgeted Cost of Work Scheduled (BCWS) is determined for each work task in the schedule?

10. Write any two differences between "known risks" and "predictable risks".

PART B — (5 × 13 = 65 marks)

11. (a) Discuss about waterfall and incremental model with an example.

Or

(b) Which is the process model that can more directly accommodate early user participation in determining, shaping, or evaluating emerging system functionality? Explain.

12. (a) (i) Discuss the seven distinct tasks involved in requirement engineering process. (9)

(ii) What does win-win mean in the context of negotiation during the requirements engineering activity? (4)

Or

(b) Draw a Petri Net that depicts the operation of the Apartment Automatic Garage door.

13. (a) Consider the following program

```
void main()
{
    intn,s=0,m;
    printf("enter any no");
    scanf("%d",&n);
    m=n;
    while(n>0)
    {
        r=n%10;
        s=s*10+r;
        n=n/10;
    }
    if(m==n)
        printf("yes");
    else
        printf("No");
    getch():
}
```

Construct the control graph for the above code and determine the cyclomatic complexity (in three ways) of the resultant flow graph. Find the number of independent path.

Or

2   50429

POLYTECHNIC, B.E/B.TECH, M.E/M.TECH, MBA, MCA & SCHOOL

Notes   *Available @*
Syllabus
Question Papers   www.binils.com
Results and Many more…

(b) (i) Explain how business process reengineering (BPE) helps to achieve a defined business outcome. (8)

(ii) Explain how the reverse engineering process helps to improve the legacy software. (5)

14. (a) Develop a sequence diagram showing the interactions involved when a student registers for a course in a university. Courses may have limited enrollment, so the registration process must include checks that places are available. Assume that the student accesses an electronic course catalog to find out about available courses.

Or

(b) For the Medical Health Care (MHC)-Patient Management System (PMS), propose a set of use cases that illustrates the interactions between a doctor, who sees patients and prescribes medicine and treatments, and the MHC-PMS.

15. (a) (i) Explain the cost estimation COCOMO model. (9)

(ii) Write the guidelines that U.S Air Force has suggested for software risk identification and reduction. (4)

Or

(b) You have a project to be completed in 24 months and total cost of project is $ 2,00,000. Six months have been passed and $95,000 is spent but on closer look, you find that only 35% of work is completed so far. Find the Schedule Variance (SV) and Cost Variance (CV) for the project.

PART C — (1 × 15 = 15 marks)

16. (a) Draw the DFD (level 0, level 1, level 2, and level 3) diagram for the Railway Ticket Registration process.

Or

(b) Explain how the changes in requirement engineering are handled and managed with an example.

———————

3   50429