



Tribhuvan University
Faculty of Humanities & Social Sciences
OFFICE OF THE DEAN
2021

Bachelor in Computer Applications
Course Title: System Analysis and Design
Code No: CACS203
Semester: III

Full Marks: 60
Pass Marks: 24
Time: 3 hours
Batch: 2020

Candidates are required to answer the questions in their own words as far as possible.

Group B

Attempt any SIX questions.

[6×5 = 30]

- 2/ You have been hired as a project manager of a large government project to replace an aging air traffic control system. Would you choose waterfall or agile as your application development method? Explain your decision. [1+4] 3-5
- 3/ Explain the roles and responsibilities of software project manager in project development. [5] 4
- 4/ What is meant by deliverable? Explain the major deliverables of planning phase. [2+3] 2
- 5/ Giving a simple example, explain how ER schemas are converted into a set of relations. Your example should have the use of multivalued and composite attributes too. Cardinality is a must. [5]
- 6/ What is the significance of normalization? Explain 2NF giving a suitable example. [2+3] 5
- 7/ Explain different approaches to installation? Which one is most expensive and risky? [3+2] 4
8. A system costs RS 2,00,000 to install. The profit per year is RS. 50,000. Assuming an interest rate is 6%, what is the payback period of the investment? [5]

Group C

Attempt any TWO questions.

[2×10 = 20]

9. List rules for diagramming DFDs. Draw a context diagram and expand it to top level logical DFD for Student Enrollment System. The enrollment process works as follows. [2+8]
 - Students send in an application form containing their personal details and their desired course.
 - The university checks that the course is available and that the student has necessary academic qualifications.
 - If the course is available, the student is enrolled in the course, and the university confirms the enrollment by sending a confirmation letter that they are registered for the course.
 - If the course is unavailable, the student is sent a rejection letter.
- 10/ Explain the factors that influence the cost of maintenance. Explain the steps involved in maintenance process and contrast them with the phases of system development life cycle. [3+7] 6
- 11/ What qualities a software tester should have? What are the deliverables from coding, testing and installation? Explain different types of software testing in detail. [1+3+6] 7