

H

Roll No.

TBC-403/TBI-405

**B. C. A./B. SC. (IT)
(FOURTH SEMESTER)**

MID SEMESTER

EXAMINATION, March, 2024

**SOFTWARE PROJECT MANAGEMENT AND
INFORMATION SYSTEM**

Time : 1½ Hours

Maximum Marks : 50

Note : (i) Answer all the questions by choosing
any *one* of the sub-questions.

(ii) Each sub-question carries 10 marks.

1. (a) Explain the concept of software project planning and its importance in the software development lifecycle. Also discuss the categorization of software projects based on their size, complexity, and nature.

(CO1)

P. T. O.

(2) TBC-403/TBI-405

OR

- (b) Explain the demerits of using LOC. Given a software module with 500 lines of code (LOC). If the productivity rate is 20 LOC per person-hour, how many person-hours are required to develop this module?

(CO1)

2. (a) Discuss decomposition techniques used in software project estimation, including software sizing, LOC-based estimation, and function point-based estimation.

(CO1/CO2)

OR

- (b) Calculate the function points for a software project with the following :

External Inputs : 4

External Outputs : 5

External Inquiries : 3

Internal Logical Files : 6

External Interface Files : 2

(3) TBC-403/TBI-405

Use the function point complexity weights and complexity adjustment factor as average for each type of function.

(CO1/CO2)

3. (a) Explain the differences between COCOMO-I and COCOMO-II models for software project estimation. Provide examples of situations where each model is more suitable.

(CO1)

OR

- (b) A project size of 200 KLOC is to be developed. The software development team has average experience on similar type of projects. The project schedule is not very tight. Calculate the effort, development time, average staff size and productivity of the project.

(CO1)

4. (a) Compare and contrast Gantt charts and PERT charts as tools for project scheduling.

(CO2)

OR

- (b) Given the following estimates for a software task :

Optimistic time : 10 days

P. T. O.

Most likely time : 15 days

Pessimistic time : 20 days

Calculate and solve this time for completing this task using the PERT.

(CO2)

5. (a) Define Software Configuration Management (SCM) and explain its importance in software development. Discuss the role of configuration control tools in managing software configuration effectively. (CO1/CO2)

OR

- (b) Explain the concept of configuration baselines and their role in managing software configurations. (CO1/CO2)