National University of Computer and Emerging Sciences 0111

Lahore Campus

FSPM (CS4003)

Sessional-II Exam

Date: November 5th 2024

Course Instructor(s)

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Total Time (Hrs):	**1**
Total Marks:	**50**
Total Questions:	**4**

21L-6105 Roll No

BSSE7B Section

Student Signature

Single sided, handwritten, A4 sized cheat sheet is allowed for mid2 exam. Printed and photocopied sheets are not allowed.
Solve MCQS and short answers on question paper.

Do not write below this line

Attempt all the questions.

CLO #: CLO statement for question Q1 .....

Q1: Chose the right option for the following. No cutting, overwriting, selecting multiple options, or done with lead pencil would be awarded any point. You may tick or encircle the right option. [25]

1. Which effort estimation technique uses historical data and comparisons to past projects?
   a. Parametric Estimating
   b. COCOMO
   c. Expert Judgment
   d. Analogy-Based Estimation

2. Which chart provides a graphical view of the project schedule, showing activities against time?
   a. Gantt Chart
   b. Network Diagram
   c. Flowchart
   d. Scatter Plot

3. In software project management, what is a "risk"?
   a. An unexpected success
   b. An uncertain event that may impact project objectives
   c. A fixed problem
   d. A task completed ahead of schedule
4. Risk Management is often included in which phase of a project?
   a. Only in initiation
   b. Throughout all phases
   c. Only in planning
   d. Only in closing
5. The main goal of software effort estimation is to:
   a. Calculate costs precisely
   b. Estimate the time required for development
   c. Allocate resources effectively
   d. All of the above
6. Which factor is NOT typically considered in COCOMO's effort estimation?
   a. Project complexity
   b. Team size
   c. Required reliability
   d. Application experience
7. What is "float" in the context of activity planning?
   a. Extra time available for non-critical tasks
   b. Slack time for critical activities
   c. Total project duration
   d. The total cost buffer

8. What is the first step in the risk management process?

   a. Risk Identification
   b. Risk Analysis
   c. Risk Monitoring
   d. Risk Mitigation

9. Which of the following is NOT an example of a technical risk?

   a. Lack of skills in a programming language
   b. Poor team communication
   c. Failure of integration testing
   d. Miscommunication of requirements

10. The primary objective of activity planning in software project management is to:

   a. Organize the development team
   b. Sequence tasks effectively
   c. Manage costs
   d. Perform software testing

11. A milestone is typically characterized by:

   a. Duration of one week
   b. Key completion points in the project
   c. Final project deadline
   d. Resource allocation

12. Function Point Analysis primarily measures:

   a. Lines of code
   b. Functions delivered
   c. Number of interfaces
   d. Complexity of algorithms

13. The Agile technique of "Planning Poker" is used for:

a. Effort estimation
b. Resource allocation
c. Code review
d. Risk assessment

14. What is the advantage of using COCOMO II for software projects?

a. Best for agile projects
b. Handles a wide variety of project scales
c. Only focuses on software coding
d. Suited for small projects only

15. In a network diagram, what does a critical path represent?

a. Activities with the least float
b. Shortest path through the project
c. Activities with the most slack
d. Path requiring the fewest resources

16. If an activity has zero float, it:

a. Can be delayed without affecting the project
b. Is a milestone
c. Lies on the critical path
d. Requires re-scheduling

17. Which risk type involves external factors, such as market changes?

a. Technical Risk
b. Business Risk
c. Project Risk
d. Operational Risk

18. The primary output of activity planning is a:

a. Project Charter

b. Project Budget

c. Project Schedule

d. Risk Assessment Report

19. A project's critical path determines:

a. Total project cost

b. Shortest time to complete the project

c. Time required for non-critical activities

d. Project scope

20. What is the primary drawback of relying solely on expert judgment for software effort estimation?

a. It is time-consuming

b. Lacks historical data

c. Can be biased

d. Too detailed for early stages

21. The main purpose of using an Activity-on-Node (AON) diagram is to:

a. Manage team assignments

b. Track project costs

c. Visualize project activities and dependencies

d. Outline project objectives

22. Risk management primarily aims to:

a. Avoid all risks

b. Identify, assess, and mitigate risks

c. Assign blame for project failures

d. Only identify risks

23. What is the primary drawback of relying solely on expert judgment for software effort estimation?

a. It is time-consuming

b. Lacks historical data

c. Can be biased

d. Too detailed for early stages

24. The main purpose of using a Work Breakdown Structure (WBS) in effort estimation is to:

a. Define all tasks in detail

b. Estimate the budget

c. Identify team roles

d. Measure code quality

25. The main output of Function Point Analysis is:

a. Cost estimation

b. Effort hours

c. Function points

d. Development resources

CLO #: CLO statement for question Q2 .....

Q2: What type of software development projects benefit most from Function Point Analysis? [2]

SLOC is very crude technique and have many drawbacks, as its better version we use function point analysis. Projects in which functionality and portability is useful.

CLO #: CLO statement for question Q3 .....

Q3: What are the five types of components counted in Function Point Analysis? [3]

(1) External Input Type (2) External Output Type, (3) External Enquiry Type (4) LIFT (5) EIFT

CLO #: CLO statement for question Q4 .....

Q4: Following table enlists the project tasks (or activities), the duration for each task (in days) and predecessor for each task.

To Do:

Draw an activity graph using the data provided in the table. Activity on the Node for Section B) **[10]**

Perform Critical Path Method on the drawn activity graph. Calculate and explicitly mention the minimum project completion time, Lag (float) on each activity, start and end time of each activity. Explicitly specify the critical activities and critical path. **[10]**

Activity/Task ID	Predecessor	Duration (Days)
A	-	6
B	A, C	8
C	A, D	7
D	A	12
E	B	2
F	C, D, E	4
G	F	8
H	C, E, G	10