No. of Printed Pages : 4

Sl. No.

B3.1-R5 : SOFTWARE PROJECT MANAGEMENT

DURATION : 03 Hours **MAXIMUM MARKS : 100**

Roll No. : | | | | | | |

Answer Sheet No. : | | | | | | |

Name of Candidate : _____ **Signature of Candidate :** _____

INSTRUCTIONS FOR CANDIDATES

- Carefully read the instructions given on Question Paper, Answer Sheet.
- Question Paper is in English language. Candidate has to answer in English Language only.
- **Question paper contains Seven questions. The Question No. 1 is compulsory. Attempt any FOUR Questions from Question No. 2 to 7.**
- **Parts of the same question should be answered together and in the same sequence.**
- **Questions are** to be answered in the **ANSWER SHEET** only, supplied with the Question Paper.
- **Candidate cannot leave the examination hall/ room without signing on the attendance sheet and handing over his/her Answer Sheet to the Invigilator. Failing in doing so, will amount to disqualification of Candidate in this Module/Paper.**
- After receiving the instruction to open the booklet and before answering the questions, the candidate should ensure that the Question Booklet is complete in all respects.

DO NOT OPEN THE QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.

1. (a) What is Software Project Management (SPM)? Discuss in brief. What are the objectives and importance of SPM ?

(b) Explain the project planning steps for developing a software management project for Library Management System.

(c) What is Capability Maturity Model (CMM) ? Briefly discuss the CMM's levels of maturity for software processes.

(d) What is Risk Tracking ? Explain with suitable example.

(e) Discuss the Project Management Metrics tools.

(f) What do you understand by Version Control System (VCS) ? In which manner does it impact the product ?

(g) Explain with example how Gantt chart is useful for project manager.

(7x4)

2. (a) Explain the function of project management in detail. What is the importance of coordination and controlling in the function of management ? Is planning and controlling related ? Justify your answer.

(b) Explain the differences between Spiral and Prototype Model in software engineering with diagram.

(10+8)

3. (a) What do you mean by Project Cost Estimation ? Explain the detailed structure of COCOMO Model.

(b) Suppose a project was estimated to be 400 KLOC. Calculate the effort and development time for each of the three models i.e., organic, semi-detached & embedded.

The constant values A, B, C, and D for different categories of the system (Basic model) are given below :

Software Projects	A	B	C	D
Organic	2.4	1.05	2.5	0.38
Semi-Detached	3.0	1.12	2.5	0.35
Embedded	3.6	1.20	2.5	0.32

(10+8)

4. (a) A software project has four phases P1, P2, P3 and P4. In these phases, P1 is the first one and needs to be completed before any other phase can commence. Phases P2 and P3 can be executed in parallel. Phase P4 cannot commence until both P2 and P3 are completed. The optimistic, most likely, and pessimistic estimates of the phase completion time in days, for Pl, P2, P3 and P4 are, respectively, (11, 15, 25), (7, 8, 15), (8, 9, 22), and (3, 8, 19). Compute the critical path for the above project and the slack of P2.

(b) Define risk analysis and risk monitoring. What things are to be considered in risk management ? How does the risk factor affect the spiral model of software development ?

(10+8)

5. (a) What is the Function Point Metric ? Provide a detailed explanation of Function Points (FP), including how they address the limitations of Lines of Code (LOC). Highlight the drawbacks of Function Metric.

(b) What constitutes Software Quality ? What are metrics and measurements ? Describe the metrics or parameters to be considered for evaluating the software quality.

(9+9)

6. (a) Explain in brief about the Software Planning. Also, mention few of the problems a software project manager faces to develop a quality software project.

(b) Describe Pareto diagram in detail. Explore the steps involved in the creation of Pareto diagram.

(10+8)

7. (a) What is the importance of Work Breakdown Structure and how does its implementation contribute to the development of an effective plan ?

(b) Why agile model is used ? Discuss the core values of agile software development.

(10+8)

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SPACE FOR ROUGH WORK