

B5.1-R4: SOFTWARE PROJECT MANAGEMENT

491001

NOTE:

1. Answer question 1 and any FOUR from questions 2 to 7.
2. Parts of the same question should be answered together and in the same sequence.

Time: 3 Hours

Total Marks: 100

1.

- a) What are the characteristics of a good software. Elaborate
- b) What is Personal Software Process? Explain its framework.
- c) What is a Commercial Off the Shelf (COTS) process model? Explain.
- d) How is Function Point Analysis used in Project Planning? Explain.
- e) What is Pareto Analysis technique?
- f) Explain Software Project Scheduling Principles?
- g) Explain Work Breakdown Structure (WBS) with an example.

(7x4)

2.

- a) Discuss some of the challenges faced in software project management.
- b) Compare the Walston-Felix model with the SEL model on a software development expected to involve 8 person-years of effort.
 - i) Calculate the number of lines of source code that can be produced.
 - ii) Calculate the duration of the development.
 - iii) Calculate the productivity in LOC/PY.
 - iv) Calculate the average manning.

(6+12)

3.

- a) A software development project is planned to cost 95 MY in a period of 1 year and 9 months. Calculate the peak manning and average rate of software team build up.
- b) What Is Auditing? Discuss three Types of audits? What is the difference between first-party, second-party, and third-party audits? What are the phases of an audit? What benefits can be achieved by conducting software audits?

(8+10)

4.

- a) Draw a simple work breakdown structure for the manufacture of a bicycle.
- b) Explain the benefits of using a work breakdown structure.
- c) State three other breakdown structures which can be developed from a WBS.
- d) List different categories of software risks in projects.

(4+4+4+6)

5.

- a) Explain the prototyping model with its advantages and disadvantages.
- b) Explain Object-Oriented Analysis, Object-Oriented Design and Object-Oriented Modelling approaches.
- c) Briefly specify object-oriented metrics that can be used to estimate object oriented software projects?

(6+6+6)

6.

- a) Differentiate between Resource Leveling and Resource Smoothing in Project Management?
b) The following represent activities in a major construction project. Draw the network to represent this project.

Activity	Immediate Predecessor
A	-
B	-
C	A
D	B
E	B
F	C, E
G	D
H	F, G

- c) What is a Software Management Plan? What are the typical aspects of Software Management Plan?

(6+6+6)

7.

- a) Describe alternative methods of software estimation. What are the merits and demerits of method based on LOC and that based on function points?
b) What are the three different Project categories in COCOMO model? Explain the basic COCOMO Model and how estimation of development effort and development time takes place in three categories?

(9+9)