

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)