

B5.1-R4: SOFTWARE PROJECT MANAGEMENT

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 is good software? Discuss.
- b) What are the drawbacks of Waterfall model? Describe.
- c) What is software reverse engineering? Explain.
- d) Define software reliability and describe two measures of reliability.
- e) What are the differences between web applications and computer based software applications? Enumerate.
- f) What is a widget? Explain. Enumerate the type of widgets.
- g) Enumerate the items a software project management plan (SPMP) document should have.

(7x4)

2.

- a) What is software prototyping and what are the reasons put forward in its favour? Explain.
- b) What are the drawbacks of using software prototype? Discuss.
- c) What do you understand by software quality, explain and describe the importance of software quality?

(6+6+6)

3.

- a) Define a project. Differentiate between software projects and other projects.
- b) What are the activities covered by Software Project Management? Explain.
- c) What is a Software Project Planning? Explain main features of good software project planning.

(6+6+6)

4.

- a) Explain the Function Point Mark II metrics for project size.
- b) One of the transactions will be used to setup details of new group account customers. The operator will input:
 - CustomerAccountNumber
 - CustomerName
 - Address
 - Postcode
 - CustomerType
 - StatementProduction Date

All this information will be setup in a CUSTOMER record on the system's database. If CUSTOMER account already exists for the account number that has been input, an error message will be displayed to the operator. Calculate the number of unadjusted Mark II function points for this transaction, if the weight for input is 0.58, for entity is 1.66 and for output is 0.26.

- c) Describe the model to calculate the estimate of person months in COCOMO II. What is the maximum value that the scale factor (SF) can have, given that there are five exponent drivers and the maximum rating for an individual driver is five and the minimum is zero?

(6+6+6)

- 5.
- What are different types of risks involved in a software project? Enumerate and discuss.
 - How are risks managed? Explain.
 - What are the strategies to reduce the risks? Explain

(6+6+6)

6. A list of project specifications with estimated activity durations and precedence requirements are given in the table below:

	Activity	Duration in Weeks	Precedents
A	Hardware Selection	6	
B	Software Design	4	
C	Hardware Installation	3	A
D	Coding and Software Testing	4	B
E	File take-on	3	B
F	User manual development	10	
G	User Training	3	E,F
H	Installation and system testing	2	C,D

- Draw an activity network using CPM conventions for the above project.
- Draw the activity network after forward pass and show the earliest start date and earliest finish date for each activity.
- Draw the activity network after backward pass and show the latest start date and latest finish date for each activity.
- Identify the critical path. If the duration of the activity F is shortened to 8 weeks, calculate the end date of project.

(3+6+6+3)

- 7.
- What do you understand by the following? Explain.
 - Software Configuration
 - New release of software
 - New version of software
 - What do you understand by Configuration Review Process? Explain.
 - What do you understand by Quality Planning? Explain.

(6+6+6)