



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/M.Tech (MSS)/SEM-2/MSS-202/2010**  
**2010**  
**SOFTWARE PROJECT AND QUALITY**  
**MANAGEMENT**

Time Allotted : 3 Hours

Full Marks : 70

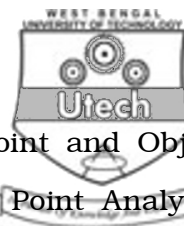
*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

Answer any seven of the following questions.

$7 \times 10 = 70$

1. a) What are the major project management activities ?  
Write down the stepwise algorithm of 'WIDE BAND  
DELPHI MODEL'. 2 + 3
- b) What is the difference between Software project  
planning and Schedule ? What are the different types of  
Task dependencies ? 2 + 3
2. a) Name the different software estimation techniques.  
What is the difference between top-down and bottom-up  
estimations ? Define software productivity. 2 + 2 + 1
- b) Critically comment on the following :  
"LOC has important role in Software Cost Estimation." 5

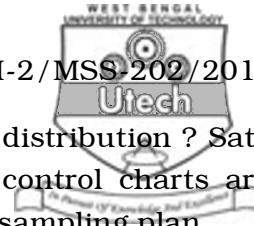


3. What is the difference between Function point and Object point ? Briefly describe 'Albrecht Function Point Analysis' technique. Why is Win-Win Spiral Model advantageous for risk analysis. 2 + 4 + 4

4. Compare the advantages and disadvantages of Network Diagram Vs. Gantt Chart. Estimate a project duration using CPM from the following table data : 2 + 8

Activity	Precedence	Duration (days)
A	—	100
B	A	25
C	B	15
D	G	30
E	D	31
F	A	35
G	C,F	24
H	D	38
I	A	40
J	D,I	55

5. Define and classify different types of Software risk. What are the major components of Software risk management ? How RRL is calculated ? What attributes are stored beside action plan/tracking documentation ? 2 + 4 + 2 + 2
6. What are the major Software Quality Management Activities ? Show with example how external quality attributes are related to internal quality attributes ? What are cyclomatic complexity and fog index ? Does correctness ensure reliability and vice versa ? 2 + 3 + 2 + 3



7. What is Sampling ? What is Sample Mean distribution ? State the Central Limit theorem. Explain how control charts are used in quality measure. State the double sampling plan.

1 + 1 + 2 + 3 + 3

8. Find the probability of the following project to be completed between 18 to 26 days using PERT analysis.

[Z table will be supplied]

Activity	Preceding Activity	Completion Times (days)		
		Optimistic	Most Likely	Pessimistic
a	—	5	6	7
b	—	4	5	18
c	a	4	15	20
d	b,c	3	4	5
e	a	16	17	18

10

9. Write short notes on any *two* of the following :

5 + 5

- Project Crashing
- Software Quality Specifications in ISO 9000 : 2000
- CMM Level 5 Software Quality
- Best agile practices
- Monitoring Real Time Software System.

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