

[Time: 3 Hours]

[Marks:80]

Please check whether you have got the right question paper.

- N.B:
1. Question No 1 is compulsory.
 2. Write any **three** questions out of remaining.
 3. Assume suitable data If required.

- Q.1**
- a) What is software engineering? Explain RAD model with diagram. **5**
 - b) Explain elements of analysis model. **5**
 - c) Differentiate between alpha testing and beta testing. **5**
 - d) Draw a complete use case for anyone of the following activities. **5**
 - I. Buying a stock using an online brokerage account.
 - II. Using your charge card for a meal at a restaurant.
- Q.2**
- a) Explain agile methodology using serum with diagram. **10**
 - b) Prepare a complete SRS for online job recruitment system. **10**
- Q.3**
- a) Explain use case based cost estimation in detail. **10**
 - b) Draw the state chart diagram and activity diagram for ATM system. **10**
- Q.4**
- a) What is quality? Explain McCall's Quality factors. List six quality attributes for ISO 9126. **10**
 - b) Write a short note on SCM process and explain how change control and version Control are carried out in SCM. **10**
- Q.5**
- a) Enumerate PMBOK Knowledge areas. **10**
 - b) Define risk and explain IT project risk management processes. **5**
 - c) Draw activity on node and activity on arrow diagram based on following activities of a project and their interrelationships shown in following table. **5**

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

- Q.6** a) A project manager and team came up with the estimates as presented in table 1.1. Draw an activity on node diagram based on predecessors given, calculate expected duration for each activity and calculate and find the critical path. **10**

Table 1.1: Activity Analysis for PERT

Activity	Predecessor	Optimistic Estimates (days) a	Most Likely Estimates (days) b	Pessimistic Estimates (days) c
A	None	1	2	4
B	A	3	5	8
C	B	2	4	5
D	B	2	3	6
E	B	1	1	1
F	C,D	2	4	6
G	D,E	2	3	4
H	F,G	1	2	5
I	G	4	5	9
J	H,I	0.5	1	3

- b) What is a Business case? State the steps in developing the business case. **10**
