Q.P. Code: 39315

Time 3 hours **Marks 80**

Note: Question No. 1 is Compulsory
Attempt any 3 Questions from the Remaining Questions.

Q.1 **20**

a) Explain Capability Maturity Model.

b) Explain layered structured of software Engineering? How quality of software can be affected by wrong selection of Process, method and tool

c) What is agility? How agile development help develop quality software

d) What are the different design principles?

Q.2

a) Explain Spiral model. How protyping is used in spiral model **10**

b) Explain Scrum agile development model **10**

Q. 3

a) Defference between Alpha and Beta Testing, Verification and Validation, White box and Black Box testing **10**

b) Draw CFG and calculate cyclomatic complexity for the given PDL **10**

```
if(c1 or c2 and c3) s1;
else  while (c4) s2;
s3;
```

Q.4

a) What are the different requirement engineering tasks? Why identifying software requirements is difficult? **10**

b) Explain includes and extends in use case diagram with example **05**

c) An application for performing arithmetic operations is to be developed (addition, subtraction, multiplication, division) on two digit numbers. Draw context diagram and DFD level 1. **05**

Q.5.

a) Explain risk management process. Prepare RMMM plan for the identified risk "Team members will leave the project in between the schedule" **10**

b) What is the need of SCM in software engineering? Explain change control **10**

Q.6.

a) Estimate minimum time required for the given project

Task	T1	T2	T3	T4	T5	T6	T7
Dependency	--	T1	T6	T2	T1,T4	-	T1,T6
Duration in weeks	4	2	4	4	2	4	2

b) Explain quality attributes in deatail
