

Total No. of Questions : 8]

SEAT No. :

**P660**

[Total No. of Pages : 2

**[5869]-290**

**S.E. (Information Technology)**

**SOFTWARE ENGINEERING**

**(2019 Pattern) (Semester - IV) (214454)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right side indicate full marks.
- 4) Assume suitable data, if necessary.

- Q1)** a) What is Software Architecture? Explain Data centered and object oriented architectural style of the system. [9]
- b) Explain guidelines for component level design and principles for User Interface design. [9]

OR

- Q2)** a) What are elements of Design model? What are the elements of architectural design? Explain Design principles? [9]
- b) Explain the following fundamental software design concepts : [9]
- i) Abstraction
  - ii) Architecture
  - iii) Patterns

- Q3)** a) What is Work Breakdown Structure? How is it related with scope management and explain 8/80 rule. [8]
- b) Calculate activity expected time and variance for given problem. [9]

Activity ID	Optimistic Time ( $t_o$ )	Most Likely Time ( $t_m$ )	Pessimistic Time ( $t_p$ )
Job 1	1	3	5
Job 2	2	6	9
Job 3	2	3	5
Job 4	5	8	10
Job 5	11	15	20
Job 6	2	5	8
Job 7	3	3	3
Job 8	2	4	6

OR

**P.T.O.**

- Q4)** a) What is COCOMO II? What areas does COCOMO II address? [9]  
b) Explain Information domain values (any 4). [8]

- Q5)** a) Discuss Garvin's eight Quality Dimensions. [8]  
b) List out ISO 9126 Quality Factors. [9]

OR

- Q6)** a) Enumerate seven Principles of Testing. [9]  
b) How Defects are managed? Explain. [8]

- Q7)** a) What is software SCM repository? Explain the features of tool set supporting SCM Repository. [9]  
b) What is configuration identification in SCM? [9]

OR

- Q8)** a) What is Software Reuse? Explain benefits and Drawbacks of software reuse. [9]  
b) Write short note on : [9]  
i) Test Driven Development (TDD).  
ii) Collaborative development.

