

(Time: 3 hours)

[Total Marks: 75]

- N. B.: (1) **All** questions are **compulsory**.  
 (2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.  
 (3) Answers to the **same question** must be **written together**.  
 (4) Numbers to the **right** indicate **marks**.  
 (5) Draw **neat labeled diagrams** wherever **necessary**.  
 (6) Use of **Non-programmable** calculators is **allowed**.

## SECTION – I

**1. Answer the following:**

- a. What are the various steps involved with software processes and the architecture business cycle? **6**
- b. What are the process recommendations for a good architecture? **6**

OR

**1. Answer the following:**

- a. What are reference models and reference architectures and patterns? Show their relationship. **6**
- b. Explain about the modifiability tactics to control the goal of time and cost to implement, test and deploy changes? **6**

**2. Answer the following:**

- a. What is a component-connector view? **6**
- b. "ARCHITECTURE IS THE VEHICLE FOR STAKEHOLDER COMMUNICATION" – Elaborate. **6**

OR

**2. Answer the following:**

- a. What is a Quality Attribute Scenario? Explain with proper diagrams. **6**
- b. Differentiate between functionality and quality attributes. **6**

**3. Answer the following:**

- a. What is the basic architectural approach used for the web? Explain how original requirements of WWW are met. **6**
- b. What are set of steps involved with the implementation of CBAM? **6**

OR

**3. Answer the following:**

- a. Describe the various views of architecture with respect to its documentation. **7**
- b. Describe how software decision module is decomposed in A-7E system. **6**

[Turn Over]

SECTION II

4. Answer the following:

- a. What is flying? Check the correctness of its transformation 6
- b. What are the essential characteristics of modelling elastic collision? Compare it with modelling of objects falling in gravitational field. 6

OR

4. Answer the following:

- a. Discuss in detail cubic interpolation. 6
- b. What is a shadow? Derive a general solution for a shadow projected onto the ground plane. 6

5. Answer the following:

- a. Briefly explain the simulation of Object falling under gravitational field. 6
- b. Explain headed couple display. 6

OR

5. Answer the following:

- a. What are the characteristics of 3D space curves? Describe any one curve generation method in detail. 6
- b. Write a note on equilibrium. 6

6. Answer the following:

- a. Differentiate between orthographic and parallel projection. 7
- b. Describe Force feedback sensors. 7

OR

6. Answer the following:

- a. What is shading? Explain the Phong shading technique. 7
- b. Explain Gouraud shading technique. State its use in virtual reality implementations. 7