Eighth Semester B.E. Degree Examination, Jan./Feb. 2021
Software Architecture

Time: 3 hrs.　　　　　　　　　　　　　　　　　　　　　　　　Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

PART – A

1　a. Explain how the software architectures affect the factors of influence. Explain ABC.
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(08 Marks)
　b. Explain the technical importance of software architectures. Further elaborate on the fact that architecture is the vehicle for stakeholder communication.　　　　**(07 Marks)**
　c. What is an allocation structure as applied to software architecture? Explain the three allocation structures in practice.　　　　　　　　　　　　　　　　**(05 Marks)**

2　a. Define the following with an example:
　　　(i) Controlled variable　　　(ii) Set point　　　(iii) Open loop system
　　　(iv) Feedback control system　　(v) Feed forward control system　　**(10 Marks)**
　b. State the problem of Key Word In Context (KWIC). Propose implicit invocation and pipes and filters style to implement a solution for the same.　　　　　　　**(10 Marks)**

3　a. Define a quality attribute scenario. List the parts of such a scenario. Differentiate between availability and modifiability scenarios.　　　　　　　　　　　　**(08 Marks)**
　b. Explain how faults are detected and prevented.　　　　　　　　　　　**(08 Marks)**
　c. Write short notes on Design Time Tactics.　　　　　　　　　　　　　**(04 Marks)**

4　a. With a neat diagram, explain the CRC cards for the pipes of filters architecture pattern. List the components of a pipe and filters architectural pattern.　　　**(08 Marks)**
　b. Explain the forces that influence the solutions to problems based on blackboard pattern.
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(07 Marks)
　c. Write a short note on HEARSAY-II system.　　　　　　　　　　　　　**(05 Marks)**

PART – B

5　a. What is the need of proxies and bridge components in a broker system? Explain.　**(06 Marks)**
　b. With a suitable diagram, explain the possible dynamic behaviour of MVC pattern.　**(09 Marks)**
　c. What are limitations of PAC pattern?　　　　　　　　　　　　　　　**(05 Marks)**

6　a. List and explain the participating components of microkernel system.　　**(10 Marks)**
　b. What are the uses of reflection pattern?　　　　　　　　　　　　　　**(10 Marks)**

7　a. List and explain the benefits of Master slave design pattern.　　　　　**(06 Marks)**
　b. List and explain the steps to implement a whole-part structure.　　　　**(08 Marks)**
　c. With a neat diagram, explain the typical dynamic scenario of proxy structure.　**(06 Marks)**

8　a. List the steps of ADD.　　　　　　　　　　　　　　　　　　　　　**(04 Marks)**
　b. Write a note on creating a skeletal system.　　　　　　　　　　　　　**(06 Marks)**
　c. What are the uses of architectural documentation? Bring out the concept of view as applied to architectural documentation.　　　　　　　　　　　　　　　　**(10 Marks)**

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