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Con. 3264-11. (REVISED COURSE) **RK-4672**

(3 Hours) [Total Marks : 100

N. B. : (1) Question No. 1 is **compulsory**.
(2) Attempt any **four** questions from the remaining.

1. (a) Differentiate between prescriptive architecture and descriptive architecture with 5
an example.
(b) What do you mean by architectural degradation ? Explain architectural drift and 5
architectural erosion.
(c) Define the following terms :— 6
   (i) Component
   (ii) Connector
   (iii) View and viewpoint.
(d) Who are system stakeholders ? How they influence the systems architecture ? 4

2. (a) Draw the architecture of a compiler which takes the source code in HLL, follows 10
different phases and converts it to object code. (Using any of the **two** styles) :—
   (i) Pipes and filters
   (ii) Layered architecture
   (iii) Blackboard style.
(b) Describe the roles played by a connector. State the variation dimensions of the 10
following connector types :—
   (i) Event connector
   (ii) Arbitrator connector.

3. (a) What do you mean by stakeholder driven modelling ? Explain in detail. 5
(b) What is the difference between accuracy and precision in context of architectural 4
modelling ?
(c) Compare the features of two modelling languages Darwin and Rapide. 6
(d) Explain the 4 + 1 view in UML. 5

4. (a) What are the goals of analysis ? Explain each goal in detail. 6
   (b) What do you mean by ATAM ? Explain with a diagram. 5
   (c) What role does architectural analysis play in case of the following stakeholders :— 4
       (i) Developers
       (ii) Managers.
   (d) Explain simulation based analysis. 5

5. (a) What is mapping problem in implementation ? Differentiate between one-way and round trip mapping. 8
   (b) What are different criterias for evaluating implementation frameworks ? 6
   (c) How are deployment and mobility related to and different from one another ? 6

6. (a) Explain REST with a diagram. 6
   (b) What do you mean by service oriented architecture ? How they are used in webservices ? 4
   (c) What is domain specific software architecture ? Give a overview of DSSA process. 6
   (d) Define product line architecture. 4

7. (a) Define the following NFP's (any **two**) :— 6
       (i) Efficiency
       (ii) Complexity
       (iii) Adaptability.
   (b) What are different dimensions of dependability ? 4
   (c) Write a short note on CORBA. 6
   (d) What do you mean by C2 style of architecture ? 4

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