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3rd SEMESTER **B.Tech. (SE)**

MID TERM EXAMINATION ***Sept-2023***

SE207a Engineering Analysis & Design

Time: 01:30 Hours ***Max. Marks: 20***

Note: All questions carry equal marks.
Assume suitable missing data, if any.
Attempt all questions.

Q.1 Explain in detail about spiral model with a neat sketch diagram and describe why this model comes under both evolutionary and RAD models. **[5 M]**

Q.2 A supermarket needs to develop the following software to encourage regular customers. For this, the customer needs to supply his/her residence address, telephone number, and the driving license number. Each customer who registers for this scheme is assigned a unique customer number (CN) by the computer. A customer can present his CN to the checkout staff when he makes any purchase. In this case, the value of his purchase is credited against his CN. At the end of each year, the supermarket intends to award surprise gifts to 10 customers who make the highest total purchase over the year. Also, it intends to award a 22-caret gold coin to every customer whose purchase exceeded Rs.10,000. The entries against the CN are the reset on the day of every year after the prize winners' lists are generated. **[5 M]**
Draw the context diagram (level 0) and the level 1 DFD for this problem.

Q.3 What are the characteristics of a good design? What do you mean by the term cohesion and coupling in the context of software design? How are these concepts useful in arriving at a good design of a system? Lists all the types of Cohesion & Coupling, and justify your answer for best & worst cohesion and coupling. **[5 M]**

Q.4 a) Define: Process, Productivity and Measurement.
b) Draw a use case diagram of Result Management System. **[3+2= 5 M]**

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