



**Continuous Assessment Test (CAT - I) – January 2023**

Programme	: M.Tech. (Integrated) Computer Science and Engineering with Specialization in Business Analytics	Semester	: Winter 2022-2023
Course Title	: Software Engineering	Code	: CSE3036
		Class Nbr(s)	: CH2022235001930 CH2022235001931
Faculty(s)	: Dr. Sivabalakrishnan.M and Dr. Prassanna.J	Slot	: E1+TE1
Time	: 1 ½ Hours	Max. Marks	: 50

**Answer all the Questions**

Q.No.	Sub. Sec.	Question Description	Marks
1.		<p>The TechVIT software company is planning to develop a web-based Hospital Management Application Software (HMS) for an emerging hospital in the city. The HMS would use to control the hospital services and either a mobile or a computer browser can access the HMS application. The HMS application is planned to consist of several modules for its operations, including patients, nurses, doctors, hospital administrators, pharmacists and more. The ideas for HMS are as follows:</p> <p>HMS allows its patients to register via a registration module (form), which gathers and stores all required patient data. Patients can view available appointments to book an appointment. Once the patient visits the hospital, the receptionist will issue him a clinic number. when the patient's turn came, the patient explains his condition to the consulting nurse, who then performs a pre-assessment examination to diagnose the problem and then redirects him to the concerned doctor. The concerned doctor will then diagnose the patient, and then enter the prescription needed for the patient. If the patient needs further examination, then the doctor will redirect him to the nurse or lab assistant based on their responsibilities. The doctor then keeps track of the exam, recommending further action, if required, and entering a new prescription for the patient. Once the prescription is ready, the pharmacist will prepare the medicines for the patient and enters the dose and guidelines of each medicine into the system. Finally, the patient will need to go to the cashier to pay for his/her visit.</p> <p>The HMS system can handle many tasks depending on the functionality of the hospital management system. It supports policy-making, guarantees communication and coordination between staff, automates routine tasks, designs patient-focused workflows, advertisers, manages human and financial resources and delivers an uninterrupted supply chain.</p> <p>Assume that you are the system architect at TechVIT for the HMS system.</p>	

1	Outline the software process model you would prefer for HMS out of the other models and explain the model. Also, validate how the application will fit into the model to provide justification.	[10]
2	Identify the stakeholders of the HMS system and categorize the possible requirements of the HMS system into functional and non-functional requirements.	[10]
3	Create a minimum of two initial paper prototype designs of the HMS interface that consider various scenarios in which the project's requirements are not clearly known.	[10]
4	Examine the various data collection tools that are appropriate for HMS and choose and illustrate the one that is best fit for practice.	[10]
5	Sketch the use case and sub-use case diagrams for at least the two modules identified in the HMS system that provide detailed information about the actors, use cases and relationships among them.	[10]
<b>Total</b>		<b>[50]</b>