

	VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE [Central Technological Institute, Maharashtra State] Matunga, Mumbai-400 019		
SEMESTER EXAMINATION	ES Examination-April 2021	DATE :	Tuesday :27/04/2021
SEMESTER & PROGRAM	Sem-VI T.Y. B.Tech (Computer Engg)	TIME	11:00 AM to 1:00 PM
TIME ALLOWED	2 .00 Hr.	MARKS	60
COURSE (Course Code)	Software Engineering II (R4CO3011T)		
Instructions: 1. Solve ALL questions . 2. All questions carry equal marks. 3. Pay attention at OR questions , sub questions and their marking scheme 4. Figures to the right indicate full marks. 5. Answer to sub questions of a particular question should be answered one below the other. 6. Forward handwritten answer sheet in pdf format to classroom of software engineering II In time. 7. The time of submission of answer sheet is set , hence Late submission shall not be considered. 8. Similar answers of the different students for the particular questions shall be actionable.			
Que. 1	<p>Hospital Management System keeps track of the patients registering in a hospital. Some of the most general requirements of the system are:</p> <ul style="list-style-type: none">Registration of patients, Users are either normal users or admin; they need to login before using the system,” Users of this system can search for patients by name, admission date and discharge date, Users can view the previous visit histories of any patient, patients can be categorized into “In Patients” and “Out PatientsOur Appointment Scheduling System Integrate IVR, Online (Web), Reception, Mobile App appointments onto one single calendar. No more clashes. Real time updates to timings. Also, this system should support features such as accessing the previous visit histories of any patient, search for patients by name and other attributes, etc,manage your patient appointments, bills, payments, records with hospital management systemOPD/ Ward Management Software helps in maintaining computerized records and data processing of OPD Management in Hospitals. OPD Management System is a complete hospital information system for Outpatient registration, treatments, billing, and reporting with details of patient's record. , System can maintain the list of beds/rooms available in the hospitalInventory management-medicine and other devicesDepartments Human resource management System can maintain the list of doctors and other staffs in the hospital, <p>Design the Class Diagram using following information: For the Users of this system can search for patients by name, admission date and discharge date, Users can view the previous visit histories of any patient ,Patients can be categorized into “In Patients” and “Out Patients systems. Clearly (a) Identify the main class types. (b) Identify the main relationship types between the class types. (c)Identify attributes, methods with access specifiers and associate them with class or relationship types. (d)Determine the OCL constraints and multiplicity constraints for each relationship. State any assumptions necessary to support your design.</p>		

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[PTO]

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<p>Que . 2</p>	<p>A leading travel agency has decided to develop application package to help its customers in planning tours. The agency provides services like air, railway, luxury, coach, hotel booking etc. Many a times customers do not have idea of availability of transport services to a particular destination. The agency also gives advice regarding economic planning of vacation/tour. Given the tour constraints like number of days, affordable cost & places to visit the software should present alternative tour plans . Alternatively the software may be just used for querying to know availability of transport services, hotels etc. Besides these main objectives the software should also have facilities for billing & accounting for the agency. You are appointed as a consultant to develop implementation strategy for the <i>automated tourist system</i>. For this case study</p> <p>Construct the Use Case Diagram and give the algorithmic template for the use case – “ billing .”</p>	<p>10</p>
<p>Que. 3</p>	<p>You are appointed as a consultant for the computerization of “Software Project Risk Management”. Construct the 0 and 1 level functional model for it , clearly show input , output , all external entities, data flows and data stores.</p>	<p>10</p>
<p>Que. 4(A)</p>	<p>ATM Money Withdrawal Interaction Diagram: For the given interaction diagram of ATM money withdrawal, the amount in bank is Rs Z . Consider the amount Rs.‘X’ that needs to be withdrawn. State whether the amount Rs.‘X’ will be dispensed by the ATM or not. Also find value of Y. Justify your answer with reasons.</p> <p style="text-align: right;">[PTO]</p>	<p>05</p>

<p>Q ue4 (B)</p>	<p>For given state transition diagram, find the result value of x. Consider x = 68 and y = 119. Justify your answer with reason.</p>	<p>03</p>
<p>Que. 4(C)</p>	<p>After the state machine completes, what is the value of X? Justify your answer with reason .</p>	<p>02</p>
<p>Que.5(A)</p>	<p>Online Bharatratna Dr. Babasaheb Ambedkar Library, VJTI Management System involves login and registration interface for online searching book, issuing book, and returning book. User can login to the system and view or get book details. The System allows to search the book on the basis of Author name, Book ID, Book Name. Users of the System are Students and Staff. Librarian acts as Administrator and he manages and has control over the System. Privileges regarding Issue book, renew book, view book status, update book status are allowed to Librarian. Users are allowed with the privileges as searching book, and viewing book status. System assigns User ID to the User, and if new book added to the Repository then the book is assigned book ID. If book is available in the Library and Number of books issued to the User does not cross the Maximum limit then it is issued to the requesting User. On returning the book by the user, system checks the due date of the book. If due date is crossed then fine is calculated by the System and user pays fine to the Librarian. For this case study , answer the following question.</p> <p>Design the software Architecture. Clearly Specify the packages, their modules and interactions.</p> <p style="text-align: right;">[PTO]</p>	<p>05</p>

<p>Que.5(B)</p>	<p>You are appointed as a knowledge expert to solve the following issue: Suppose that one person in 100,000 has a Covid -19 disease. There is a test for the disease that gives a positive result 99% of the time when given to someone with the disease. When given to someone without the disease, 99.5% of the time it gives a negative result.</p> <ul style="list-style-type: none"> a) Design the algorithm that a person who tests positive has the Covid -19 disease. b) Design the algorithm that a person who test negative does not have the Covid -19 disease. c) Justify with reason: Should someone who tests positive be worried? <p>OR</p> <p>Apply the unit testing on the class “ book “ of case study of Que.5(A). Clearly Assume and specify required data from case study.</p>	<p>05</p>
<p>Que. 6</p>	<p>E-learning Systems You are appointed as consultant for the analysis for the E-Learning Tool for the web based continuous Education systems. You have to replace the traditional computer aided teaching learning process by E-Learning Systems using reengineering for the production of E-learning software product. This multimedia e-learning tool would enable the faculty to create his own synchronous interactive learning material such as lecture slides, lecture videos using multimedia resources. This when coupled with database server is intended to serve as a repository of lectures that would enable aspiring students from remote centres all around the world to acquire knowledge and pursue their education just by a stroke on the keyboard. Assume required data. You have to Apply Reengineering process for the development of this system. Clearly specify your assumptions and advise the customer to answer the following.</p> <ul style="list-style-type: none"> a. What kind of data and information do you have, and what do you want to do with it? b. List the milestones in reverse engineering and forward engineering. c. How much customization and sufficient planning will you need during forward engineering? d. What will be the output of reengineering process? <p>OR</p> <p>If the customer ask your advice to develop the E-learning Systems(Que 6. Case study- E-learning Systems) using web engineering , AUP or DevOp and cloud computing , What are your suggestions to the customer in order to produce the quality software product and list of the resources that would be required to make the improvements in the software.</p>	<p>10</p>

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