

Mumbai University

April - 2017

B.Sc.IT: SEMESTER – VI

**PRACTICAL
QUESTION PAPER**

[CBSGS – 75:25 Pattern]

PROJECT

MANAGEMENT

UNIVERSITY OF MUMBAI

T.Y.B.Sc. INFORMATION TECHNOLOGY (Semester VI) (Practical) EXAMINATION
APRIL 2017

Project Management

Seat No: _____

Max Marks: 50

1.	Draw a class diagram for the scenario given below. This is an example that models University Courses. Assume three classes' such as course, lecturer, student and an interface person. Each course objects maintains a list of student on that course and lecturer who has been assigned to teach that course. The course object has behavior that allows adding and removing student to and from course, assigning the teacher and getting a list of currently assigned student and currently assigned teacher. A teacher may teach several courses but a course only has a single teacher .A lecturer object maintains a list of courses that it teaches, course is attended by 0 or more student and student may attend multiple courses. A person interface will have getName() and getEmailAddress () methods both lecturer and student are shown to be the type of person.	40
2.	Viva	5
3.	Journal	5

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Project Management

Seat No: _____

Max Marks: 50

1.	Draw a class diagram for the scenario given below. This scenario is from system that models companies for a payroll or reporting system. Company object has properties such as name and employees_list and getName and getEmployees as its behavior. Employee object includes employee no, name, salary and manager as its properties getName (), getEmplyoeeNo () , getSalary() and getManager() as its methods. getManager() accepts object of manager. Company may have one or more employees. A manager object keeps manages as list property and add TeamMember(employee_list) and getTeamMember() as its behaviors. One or more employee can be managed by manager objects. Some employees are contractual employees who are within a lieu of a contractor object. A contractor object may have length_of_contract as its property and getLength() as its behavior.	40
2.	Viva	5
3.	Journal	5

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Project Management

Seat No: _____

Max Marks: 50

1.	<p>Create a class diagram(Use Star UML) for “library management” using the classes with their attributes and operation given below. Also set the appropriate relationship between the classes using the relationship tools from the toolbox following the overview of the system given below.</p> <p style="text-align: center;"><u>Overview of the system:-</u></p> <ul style="list-style-type: none">a) It has a class “Book”. Book has authors so it has an “Author” class.b) In order to collect book information it has “BookItem” class which uses some of the properties from book class.c) It needs an account for reserving book by the user so it has an “Account class.”d) In account class there is an attribute named state which uses an enumeration named “AccountState”.e) It also has a class “Library” to manage the account, user and the books.f) It has a user class to manage the user detail that has an account in the library and he can borrow and return books to library.g) The system also has an interface “Search” where the user searches the book he needed from the “Catalog” class.	40
2.	Viva	5
3.	Journal	5

Project Management

Seat No: _____

Max Marks: 50

Max Marks: 50

1.	<p>DRAW AN ACTIVITY DIAGRAM FROM THE NARRATIVE TEXT ON “BANK ATM MACHINE FOR WITHDRAWING CASH”.</p> <p>Summary:</p> <p>An automated teller machine (ATM) or the automatic banking machine (ABM) is a banking subsystem that provides bank customers with access to financial transactions in a public space without the need for a cashier, clerk or bank teller.</p> <p>Customer uses bank ATM to check balances of his/her bank accounts deposit funds, withdraw cash and/or transfer funds which are the generalization alternative of ATM transaction use case.</p> <p><u>FOR WITHDRAWING CASH</u></p> <p>On most bank ATMs, the customer is authenticated by inserting a plastic ATM card and entering a personal identification number (PIN). Bank will than authenticate the customer’s pin number. Only authenticated customer can request the system for withdrawing money while the unauthenticated customer will get back his ATM card as the system will reject the card.</p> <p>Then the system will request the authenticated customer to enter the amount be de withdrawn. The bank will check the balance amount of the customer if it is sufficient bank will provide the requested amount to the customer and debit the respective amount from the balance. The customer will collect or take the amount from the slot. In case of insufficient amount the system will show the balance and reject the card. At the end of all the process the customer will take back his ATM card.</p>	40
2.	Viva	5
3.	Journal	5

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Seat No: _____

Max Marks: 50

1.	DRAW AN ACTIVITY DIAGRAM FROM THE NARRATIVE TEXT ON “ONLINE PAPER SUBMISSION SYSTEM”. SUMMARY The author completes an online form that requests the user to input author name, Correspondence address, email and, title of paper. The system validates this data and, if correct, asks the author to submit the paper. The author then browses to find the correct paper on their system and submits it. Once received and stored, the system returns to the author a reference number for the paper. Authors may submit as many papers as they like to be considered for acceptance to the conference up until the deadline date for submissions. Papers are allocated to referees for assessment. They review each paper and submit to the system their decision. Once the program organizer has agreed the decisions authors are informed by email. Accepted papers are then schedule to be delivered at a conference. This involves allocating a date, time and place for the presentation of the paper.	40
2.	Viva	5
3.	Journal	5

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Max Marks: 50

1.	<p>DRAW THE ACTIVITY DIAGRAM FOR THE GIVEN PROBLEM OF USE CASE.</p> <p><u>DESCRIPTION OF THE EXAMINATION PAPER PREPARATION SUPPORT SYSTEM.</u></p> <p>Use case name: submit question Participant: lecturer Entry conditions: 1. The question is ready and stored in a file 2. The lecturer is assigned to the module Exit conditions: 1. The file is uploaded to the system 2. The module leader is notified of the availability of the question 3. The event is logged by the system Flow of Events: 1. The lecturer logs into the system by entering his/her username and password; 2. The system checks the username and password; 3. The system displays the list of modules of which he/she is the lecturer, module leader And/or internal examiner; 4. The lecturer selects a module and his/her role in the module as a lecturer; 5. The system prompts the user to enter the file name and location on his/her computer, and Additional information if any; Exceptional conditions and alternative flow of events: When the username and password is not correct: 3.1: display error message, go back to step 1; When the lecturer is not listed on the module: 4.1: quit the system; Special requirements: 1. The file should be encrypted when transmitted from lecturer's computer to the server 2. The notification of success in uploading the file should be within 20 seconds 3. The event should be recorded in a log file to contain the following information: a) Name of the lecturer, b) Date and time of the event, c) The name of the event (upload exam question). d) The file on the server that stores the questions.</p>	40
2.	Viva	5
3.	Journal	5

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Seat No: _____

Max Marks: 50

1.	<p>DRAW WORK BREAK DOWN STRUCTURE FOR THE TASK OUTLINE GIVEN BELOW USING WBS CHART PRO TOOL. <u>TASK OUTLINE FOR A SOFTWARE DEVELOPMENT PROJECT FOLLOWING WATERFALL MODEL: -</u></p> <p>Project</p> <ul style="list-style-type: none">1.1 requirements<ul style="list-style-type: none">1.1.1 Product investigation1.1.2 Product survey1.1.3 Assess product suitability1.2. Design<ul style="list-style-type: none">1.2.1 Concept design1.2.2 Final design<ul style="list-style-type: none">1.2.2.1 Detailed design1.2.2.2 Drawing1.2.2.3 Design review and approval1.3 constructions<ul style="list-style-type: none">1.3.1 Purchase material1.3.2 Building system<ul style="list-style-type: none">1.3.2.1 Mark out dimensions1.3.2.2 Install foundation1.3.2.3 Install superstructure1.4 testing<ul style="list-style-type: none">1.4.1 Test functionality<ul style="list-style-type: none">1.4.1.1 Routine testing1.4.1.2 Random investigation	40
2.	Viva	5
3.	Journal	5

Project Management

Seat No: _____

Max Marks: 50

1.	<p>Draw a use-case diagram using StarUML for the scenario given below.</p> <p>Web Customer actor uses some web site to make purchases online. Top level use cases are View Items, Make Purchase and Client Register. View Items use case could be used by customer as top level use case if customer only wants to find and see some products. This use case could also be used as a part of Make Purchase use case. Client Register use case allows customer to register on the web site, for example to get some coupons or be invited to private sales. Note that Checkout use case is included use case not available by itself - checkout is part of making purchase. Except for the Web Customer actor there are several other actors which will be described below with detailed use cases. View Items use case is extended by several optional use cases - customer may search for items, browse catalog, view items recommended for him/her, add items to shopping cart or wish list. All these use cases are extending use cases because they provide some optional functions allowing customer to find item. Customer Authentication use case is included in View Recommended Items and Add to Wish List because both require customer to be authenticated. At the same time, item could be added to the shopping cart without user authentication. Checkout use case includes several required uses cases. Web customer should be authenticated. It could be done through user login page, user authentication cookie ("Remember me") or Single Sign-On (SSO). Web site authentication service is used in all these use cases, while SSO also requires participation of external identity provider. Checkout use case also includes Payment use case which could be done either by using credit card and external credit payment service or with PayPal.</p>	40
2.	Viva	5
3.	Journal	5

Project Management

Seat No: _____

Max Marks: 50

<p>1.</p>	<p>Draw an activity diagram using StarUML for the Airport check-in and security screening system depicted below.</p> <p>© uml-diagrams.org</p>	<p>40</p>
<p>2.</p>	<p>Viva</p>	<p>5</p>
<p>3.</p>	<p>Journal</p>	<p>5</p>

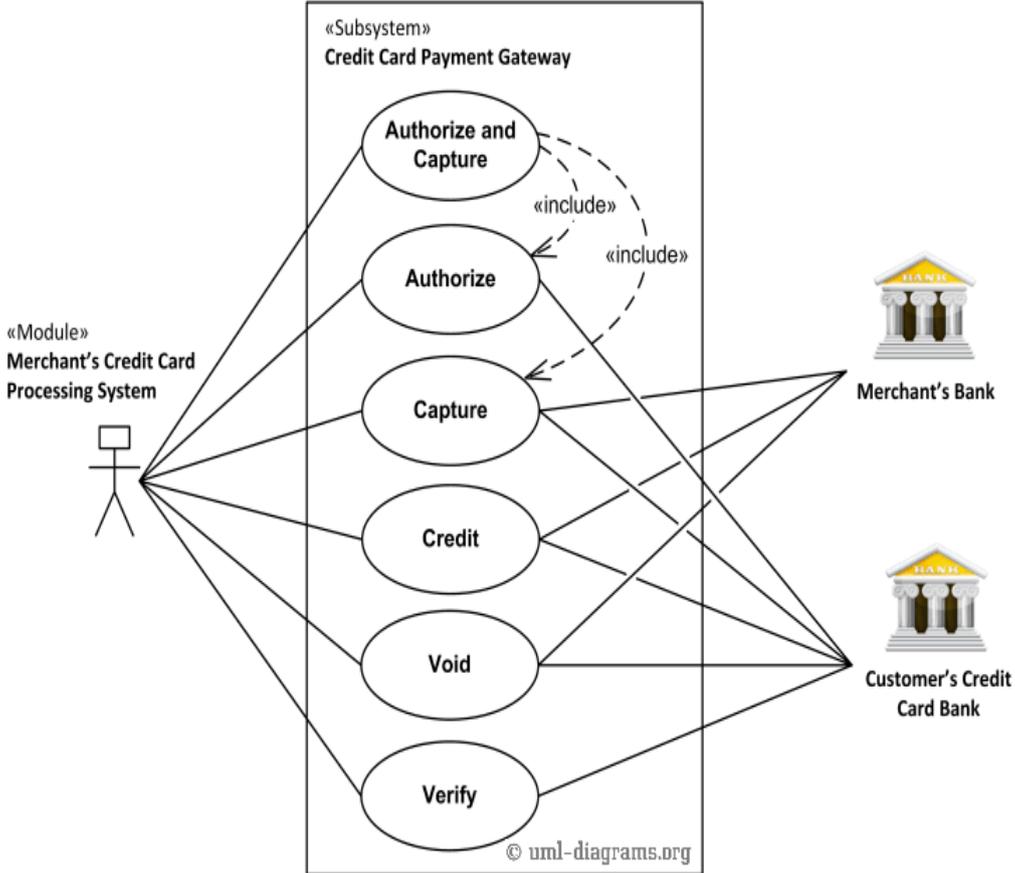
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Max Marks: 50

1.	<p>Draw an activity diagram using StarUML for the Credit card processing system depicted below.</p>  <p>The diagram shows a stick figure actor labeled «Module» Merchant's Credit Card Processing System. It is connected to a central box labeled «Subsystem» Credit Card Payment Gateway. Inside this box are six activity nodes: Authorize and Capture, Authorize, Capture, Credit, Void, and Verify. The Authorize and Capture node includes Authorize and Capture nodes via dashed arrows labeled «include». The Actor is connected to all six nodes. The Authorize and Capture, Authorize, and Capture nodes are connected to a bank icon labeled Merchant's Bank. The Credit, Void, and Verify nodes are connected to another bank icon labeled Customer's Credit Card Bank. A copyright notice © uml-diagrams.org is at the bottom right of the diagram.</p>	40
2.	Viva	5
3.	Journal	5

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Max Marks: 50

1.	<p>Draw a use-case diagram using StarUML for the retail Point-of-sale system depicted below.</p> <p>A retail POS system typically includes a computer, monitor, keyboard, barcode scanners, weight scale, receipt printer, credit card processing system, etc. and POS terminal software.</p> <p>Checkout use case involves Customer, Clerk and Credit Payment Service actors and includes scanning items, calculating total and taxes, payment use cases.</p> <p>Checkout use case requires Customer actor, hence the 1 multiplicity of Customer. Clerk can only participate in a single Checkout use case. Credit Payment Service can participate with many Checkout use cases at the same time. Checkout use case may not need Credit Payment Service (for example, if payment is in cash), thus the 0..1 multiplicity.</p> <p>Checkout use case is an example of a large and complex use case split into several use cases each describing some logical unit of behavior. Note, that including use case becomes incomplete by itself and requires the included use cases to be complete. Payment use case is represented using generalization relationship. It means that only one specific type of payment is accepted - either by cash, or by credit, debit, or with check. An alternative to such representation could be to use include relationship so that not just single but several forms of payment could be accepted from the same client during checkout.</p>	40
2.	Viva	5
3.	Journal	5

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Seat No: _____

Max Marks: 50

1.	Draw a class diagram using StarUML for the scenario given below. This scenario shows an <i>inheritance hierarchy</i> of a series of classes and their subclasses. It's for an imaginary application that must model different kinds of vehicles such as bicycles, motor bike and cars. All Vehicles have some common attributes (speed and color) and common behavior (turnLeft, turnRight). Bicycle and MotorVehicle are both kinds of Vehicle and are therefore shown to inherit from Vehicle. To put another way, Vehicle is the superclass of both Bicycle and MotorVehicle. In our model MotorVehicles have engines and license plates. Attributes have been added accordingly, along with some behavior that allows us to examine those attributes. MotorVehicles is the base class of both MotorBike and Car; therefore these classes not only inherit the speed and color properties from Vehicle, but also the additional attributes and behavior from MotorVehicle. Both MotorBike and Car have additional attributes and behavior which are specific to those kinds of object.	40
2.	Viva	5
3.	Journal	5

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Project Management

Seat No: _____

Max Marks: 50

1.	Explain the process of cost estimation using Basic COCOMO model. (Refer phase distribution of effort and schedule tables for the necessary values)	20
2.	Explain the process of cost estimation using intermediate COCOMO model. (Refer Project Characteristics, phase distribution of effort and schedule tables for the necessary values)	20
3.	Viva	5
4.	Journal	5

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Project Management

Seat No: _____

Max Marks: 50

1.	<p>Using function point analysis technique, calculate the cost of effort for application software “FPTacker” developed in java. The application has following number of data functions and transaction functions mentioned in the table given bellow. With TDI of 35. Note that the application involves 2 average programmers. Each of them is getting \$150.00 per day including all benefits.</p> <p style="text-align: center;">TABLE:-</p> <table border="1"><thead><tr><th rowspan="2">Function type</th><th colspan="3">Complexity</th></tr><tr><th>low</th><th>Average</th><th>high</th></tr></thead><tbody><tr><td>External inputs(EI)</td><td>3</td><td>4</td><td>6</td></tr><tr><td>External queries(EQ)</td><td>3</td><td>4</td><td>6</td></tr><tr><td>External outputs(EO)</td><td>4</td><td>5</td><td>7</td></tr><tr><td>Internal logical file(ILF)</td><td>7</td><td>10</td><td>15</td></tr><tr><td>External Interface file(EIF)</td><td>5</td><td>7</td><td>10</td></tr></tbody></table>	Function type	Complexity			low	Average	high	External inputs(EI)	3	4	6	External queries(EQ)	3	4	6	External outputs(EO)	4	5	7	Internal logical file(ILF)	7	10	15	External Interface file(EIF)	5	7	10	40
Function type	Complexity																												
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2.	Viva	5																											
3.	Journal	5																											

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Project Management

Seat No: _____

Max Marks: 50

1.	Estimate effort and schedule, productivity and full time personnel required for an MIS project having three programs with DSI of 1028, using basic COCOMO1 model in organic mode and intermediate COCOMO model in organic mode (rate all the cost drivers as law). Also calculate the programming effort for the same application.	40
2.	An initial study of application software has determined that the size of the program will be roughly 62,000 delivered source instruction for an “ABC” inventory. Using intermediate COCOMO1 model equations to calculate the effort, duration and staffing required to developing this application software. Note that:- This project is rated Very High for Complexity (Effort Multiplier of 1.30), and Low for Tools Use (Effort Multiplier of 1.10), and all of the other cost drivers are rated to be Nominal. Use these two Effort Multipliers to calculate the Effort Adjustment Factor (EAF).	
3.	Viva	5
4.	Journal	5

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Project Management

Seat No: _____

Max Marks: 50

1.	<p>Using function point analysis technique, calculate the cost of effort for application software “online shopping” developed in c# by three programmers, which has the following number of data functions and transaction functions mentioned in the table given bellow. With TDI of 35. Note that in this project an average programmer is getting \$5,500 per month including all benefits.</p> <table border="1"><thead><tr><th rowspan="2">Function Type</th><th colspan="3">Complexity</th></tr><tr><th>Low</th><th>Average</th><th>High</th></tr></thead><tbody><tr><td>Inputs (EI)</td><td>2</td><td>4</td><td>6</td></tr><tr><td>Outputs (EO)</td><td>3</td><td>5</td><td>7</td></tr><tr><td>Files(ILF)</td><td>5</td><td>10</td><td>15</td></tr><tr><td>Inquiries(EQ)</td><td>2</td><td>4</td><td>6</td></tr><tr><td>Interfaces(EIF)</td><td>4</td><td>7</td><td>10</td></tr></tbody></table>	Function Type	Complexity			Low	Average	High	Inputs (EI)	2	4	6	Outputs (EO)	3	5	7	Files(ILF)	5	10	15	Inquiries(EQ)	2	4	6	Interfaces(EIF)	4	7	10	40
Function Type	Complexity																												
	Low	Average	High																										
Inputs (EI)	2	4	6																										
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2.	Viva	5																											
3.	Journal	5																											

Project Management

Seat No: _____

Max Marks: 50

1.	<p>DRAW A CLASS DIAGRAM FOR THE SCENARIO GIVEN BELOW:</p> <p>This is an example that models “ORDER MANAGEMENT”. The Customer object has properties such as CustomerId, CustomerName, Address and Phone and methods such as AddCustomer(),DeleteCustomer() and EditCustomer(). Order object includes OrderId, CustomerId, CustomerName, ProductId, Amount and OrderDate as its property and CreateOrder() and EditOrder(OrderId) as its behavior. A customer can place one or many orders. Further there are SpecialOrder object and NormalOrder object which have same methods CreateOrder(), confirm(), close(), dispatch() whereas the SpecialOrder object also has one property named SpecialDiscount. SpecialOrder and NormalOrder objects are both kinds of order and are therefore shown to inherit from order entity. Moreover the system also has Product entity having attributes such as ProductId, ProductPrice, ProductType and methods such as AddProduct(), ModifyProduct() and SelectProduct(ProductId). Stock object has properties like ProductId, Quality and ShopNo and behavior such as addStock(), ModifyStock(ProductId) and slectStockItem(ProductId). Note that specialOrder and NormalOrder has 1 or more product whereas stock has many products.</p>	40
2.	Viva	5
3.	Journal	5

Project Management

Seat No: _____

Max Marks: 50

1.	<p>DRAW A CLASS DIAGRAM FOR THE SCENARIO GIVEN BELOW:</p> <p>This is an example that models “Hospital Management”. The ward object of this system has attributes such as name, patient-gender and capacity. Note that patient-gender is a gender type which is an enumeration containing enums male and female. The system also has Patient entity with attributes such as patient_id, admitted, sickness _history, prescriptions, special_reqs and allergies and gender which is again a gender enumeration type. And operations such as getPatient() and deletePatient(Patient_id). Ward is a division of a hospital object having attributes such as name address and phone number. In hospital there are number of wards each of which may be empty or have one or more patient. Each ward has unique name. This ward is shared by patients who need a similar kind of care. Each patient is on a single ward. The system also has Doctor entity which is further classified into Consultant Doctor and Junior Doctor. The doctors in the hospital are organized into Teams entity with attribute team_name. Each team can have two or more doctors. Each patient is under the care of a single team of doctors. A patient may be treated by any number of doctors but all the doctors must belong to same team that cares for the patient. Note that team is own by the hospital.</p>	40
2.	Viva	5
3.	Journal	5

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Project Management

Seat No: _____

Max Marks: 50

1.	<p>DRAW A USE-CASE DIAGRAM USING STARUML FOR THE “Hospital Reception Subsystem” explained below:</p> <p>“Hospital Reception Subsystem” supports some of the many job duties of hospital receptionist. Receptionist schedule patient’s appointments with the doctor and also schedule patient hospital admission. If doctor is available and admission to the hospital is possible then receptionist can extend the service to patient registration by collecting the patient information on patient arrival or over the phone. Patient registration is an integral part of patient Hospital Administration use case. Hospital administration use case is further generalized into outpatient hospital admission and inpatient hospital administration. Note that for the patient that will stay in the hospital, he or she should have a bed allotted in a ward. Receptionists might also receive patient’s payments, record them in a database and provide receipts, file insurance claims and medical reports.</p>	40
2.	Viva	5
3.	Journal	5

Project Management

Seat No: _____

Max Marks: 50

1.	<p>DRAW A USE-CASE DIAGRAM USING STARUML FOR THE “MUSIC PORTAL SYSTEM” DEPICTED BELOW.</p> <p>The following narration describes some of the use cases for “Music Portal System”. This system has web user as its main actor. The web user can perform first level uses cases namely SearchAlbum, login, logout and ViewAccount. Registration use case extends login i.e. if the user doesn’t have a login and wishes to create a new one, he or she can register to get a login. Moreover the ViewAlbumDetail use case is extending the SearchAlbum use case. Further the ViewAlbumDetail use case is extended by two more services viz. DownloadAlbum and BuyAlbum. Note that to download or to buy an album the user must be a registered member. Moreover the buyalbum and ViewAccount is further extended with Recharge use case.</p>	40
2.	Viva	5
3.	Journal	5

Project Management

Seat No: _____

Max Marks: 50

1.	<p>DERIVE AN ACTIVITY DIAGRAM FROM THE CASE GIVEN BELOW ON “ORDER PROCESSING SUBSYSTEM“</p> <p>Web Customer uses some web site to make purchases online. Where customer can search item, View item, add item to the cart, place order and make payment.For placing an order the customer first searches the required items from the system. As and when the customer finds the item available in the system he starts adding item to the chart. The System provides facility to the Customer to add any number of items to the chart. Customer can also view his shopping chart containing items.Ones the customer finishes his shopping he can place the order by requesting system to confirm the order.The system will then check whether the order is normal order or any special order and according to that the system will generate the bill and request for payment.</p> <p>After getting the bill the customer can make payment.The bank will validate the credit card number. If the credit card number is valid the system will confirm the order. Otherwise the process will get terminated.</p>	40
2.	Viva	5
3.	Journal	5

Project Management

Seat No: _____

Max Marks: 50

1.	<p>DRAW AN ACTIVITY DIAGRAM FROM THE NARRATIVE TEXT ON “TICKET VENDING MACHINE”</p> <p>The scenario provided below describes the behavior of the purchase ticket use case.</p> <p>Activity is started by Commuter <u>actor</u> who needs to buy a ticket. Ticket vending machine will request trip information from Commuter. The commuter will provide trip information to the machine. Based on the provided trip information, the ticket vending machine will process the trip information and calculate payment due by requesting payment. Commuter will provide payment information to the machine. The machine will process the payment on the basis of payment by cash or credit or debit card. If payment by card was selected by Commuter, another actor, Bank will participate in the activity by authorizing the payment. After payment is complete, ticket is dispensed to the Commuter. And the commuter will get the ticket.</p> <p>Cash payment might result in some change due, so the change is dispensed to the Commuter in this case by the machine. Ticket vending machine will show some "Thank You" screen at the end of all the activity.</p>	40
2.	Viva	5
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Max Marks: 50

1.	<p>Calculate Final Function Points, SLOC, Man-Months(MM) and total cost of the project developed in Java. The scale value is given below:</p> <table border="1"><thead><tr><th></th><th>Simple</th><th>Average</th><th>Complex</th></tr></thead><tbody><tr><td>Inputs</td><td>2</td><td>5</td><td>1</td></tr><tr><td>Outputs</td><td>-</td><td>5</td><td>3</td></tr><tr><td>Files</td><td>-</td><td>1</td><td>3</td></tr><tr><td>Interface</td><td>-</td><td>2</td><td>5</td></tr><tr><td>Inquires</td><td>-</td><td>5</td><td>-</td></tr></tbody></table> <p>Assume nominal value for Degree of Influences except the following: performance criteria (0.3), ease of installation (3.2), online update (0.8) & maintainability (1.7) The average Function Point of company is estimated as 14 .The average salary of a programmer is Rs. 37000. As per Universal Function Points, SLOC per FP for the technology java is 32.</p>		Simple	Average	Complex	Inputs	2	5	1	Outputs	-	5	3	Files	-	1	3	Interface	-	2	5	Inquires	-	5	-	20
	Simple	Average	Complex																							
Inputs	2	5	1																							
Outputs	-	5	3																							
Files	-	1	3																							
Interface	-	2	5																							
Inquires	-	5	-																							
2.	<p>An initial study has determined that the size of the program that ABC tele Industries developed by their in-house expertise is 52,000. Calculate Staff-Months(SM/effort), Time taken for development and productivity. Also calculate Average Staffing requirement of project. Use COCOMO -I to calculate the same.</p>	20																								
3.	Viva	5																								
4.	Journal	5																								

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Seat No: _____

Max Marks: 50

1.	Calculate Final Function Points, SLOC, Man-Months(MM) and total cost of the project developed in C#. The scale value is given below: <table border="1"><thead><tr><th></th><th>Simple</th><th>Average</th><th>Complex</th></tr></thead><tbody><tr><td>Inputs</td><td>1</td><td>3</td><td>3</td></tr><tr><td>Outputs</td><td>-</td><td>2</td><td>3</td></tr><tr><td>Files</td><td>-</td><td>1</td><td>3</td></tr><tr><td>Interface</td><td>-</td><td>2</td><td>4</td></tr><tr><td>Inquires</td><td>-</td><td>-</td><td>3</td></tr></tbody></table> <p>All the degree of influence factors remains nominal except the following: portability (1.85), On-line updation (1.15) , scalability(1.2) and maintainability (0.5). The average Function Point of company is estimated as 14 .The average salary of a programmer is Rs. 28000. As per Universal Function Points, SLOC per FP for the technology C# is 28.</p>		Simple	Average	Complex	Inputs	1	3	3	Outputs	-	2	3	Files	-	1	3	Interface	-	2	4	Inquires	-	-	3	20
	Simple	Average	Complex																							
Inputs	1	3	3																							
Outputs	-	2	3																							
Files	-	1	3																							
Interface	-	2	4																							
Inquires	-	-	3																							
2.	An initial study has determined that the size of the program which was developed with the help of high complexity hardware is 255 KLOC. Calculate Effort(man-month), Productivity, time taken for development and average staffing requirement (FSP) of the project.	20																								
3.	Viva	5																								
4.	Journal	5																								

UNIVERSITY OF MUMBAI

T.Y.B.Sc. INFORMATION TECHNOLOGY (Semester VI) (Practical) EXAMINATION
APRIL 2017

Project Management

Seat No: _____

Max Marks: 50

1.	<p>Draw a use-case diagram using StarUML for the scenario given below.</p> <p>Customer actor uses some web site to book flight tickets on-line. Sometimes they book tickets through agents and agents book tickets on-line for them. Privileged customers and privileged agents get special discount upon booking. Students, Senior citizens and Armed forces customers are also given special discounts upon proper authentication which is verified through security service of airline company. Top level use cases are Book Tickets, deliver tickets and Payment. When the customer or agent book tickets, they may reserve their seats with the help of airline company and they may choose priority booking with the help of the company. Package tour agents plan the schedule and they deliver the tickets along with the schedule if the customer opts for package tour. Note that the package tour is always scheduled in align with the schedule of the airline company. Note that payment use case includes payment of agent and package tour operators (if applicable) as well. Payment use case which could be done either by using debit card, net banking, credit card and external credit payment service or with PayPal.</p>	40
2.	Viva	5
3.	Journal	5

UNIVERSITY OF MUMBAI

T.Y.B.Sc. INFORMATION TECHNOLOGY (Semester VI) (Practical) EXAMINATION
APRIL 2017

Project Management

Seat No: _____

Max Marks: 50

1.	<p>Draw a use-case diagram using StarUML for the scenario given below.</p> <p>In “Akash Mercantile Bank” the customers open account to be the members. The customers can open either saving account or current account. Employees of the bank give induction to the customers towards several utilities offered by the bank. When opens an account, the customers should give referral accounts to prove their authentication. The customers are to keep Rs. 5000 as the minimum balance. If the rule is violated, then they have to pay the penalty of Rs. 250 which will be debited from their account.</p> <p>If the customer is more than 55 years old or if the deposit amount is more than 25000 then the customers are allowed to deposit the amount in the FD account of the bank. Upon successful transaction, the customers may calculate the bonus. The customers can withdraw funds either from the account balance or from the maturity amount of deposit. In either form of withdrawal, the balance should be automatically updated.</p> <p>NRI customer of the bank can convert currencies and do money transfer.</p>	40
2.	Viva	5
3.	Journal	5