Reg. No.:

Name :

VIT

Vellore Institute of Technology

Continuous Assessment Test II (CAT-2) – March 2023

ogramme	:	**B.Tech (CSE and its specialization)**	Semester	:	**Winter Sem. 2022-23**
ourse Code	:	**BCSE301L**	Class Nbr(s)	:	**CH2022235000247, CH2022235000248, CH2022235000253, CH2022235000250, CH2022235000251**
ourse Title	:	**Software Engineering**			
culty(s)	:	**Dr. D.Jeya Mala, Dr. K.Parkavi, Dr.D.Kavitha, Dr.Sherly, Prof. R.Deepika**	Slot	:	**C2 + TC2**
me	:	**90 minutes**	Max. Marks	:	**50**

Answer all the Questions

No	Sub-division	Question Text	Marks
1.	(a)	Identify and classify the type of following requirements for the "Online Food Ordering System": (i) The user interface shall be implemented using HTML5 with server side as JSP and without any simple or basic HTML pages. (ii) The system development process and deliverable documents shall conform to the process and deliverables defined in ISO6025. (iii) The system shall not disclose any personal information about customers apart from their name and order number to the operators of the system. (iv) The user should be able to track their order using mobile app. (v) The GUI can show the latest offers and the duration of that offer.	5
	(b)	For the following User Requirement, enumerate the System Requirements: The "Patient Monitoring System", should get the details of the patients as textual document, ECG report and Blood Analysis report and should generate reports in different external file formats such as pdf or jpg or doc.	5
2.	(a)	The E-Commerce giant 'Flipkart' wants to develop a cutting edge technology based new E-Commerce application to meet the Gen-Z customers. They have provided a list of requirements to the 'ABC Consultancy Company" to develop it. As a System Analyst employed in ABC, prepare SRS document for the following a. Introduction b. Scope c. Hardware Interface d. Software Interface e. Communication Interface f. Design and implementation constraints g. Functional requirements h. Non-functional requirements i. Operating environment and j. References	10

(b) provide your mechanism to reduce the coupling

(i)

```
class Discount
{
  void discountCalc(Order o)
  { System.out.println(o.ordid, o.amout, o.discount);
   }
,,,,
}
class Order
{  public String ordid;
   public float amount;
   public float discount;
.....
}
```

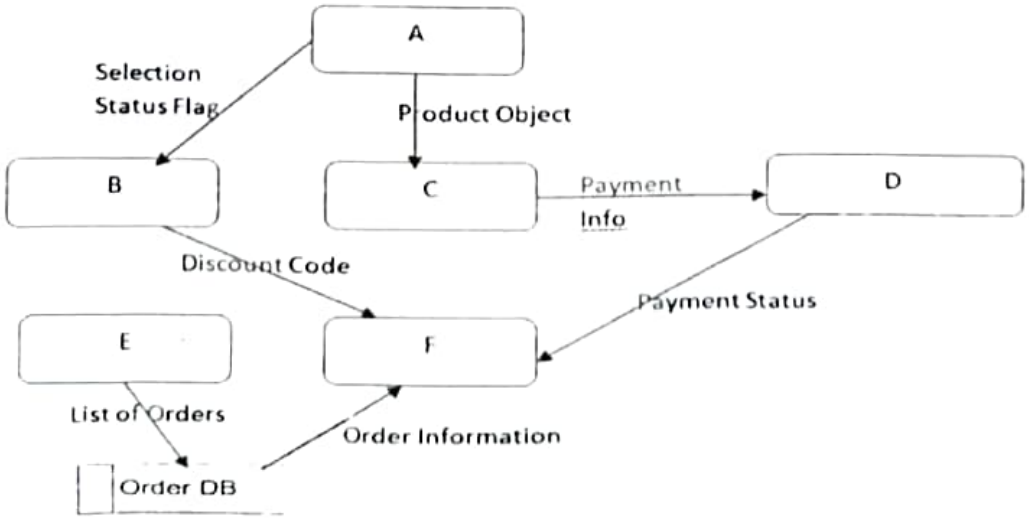
2

(ii)

```
Class Marks
{
  void marksheetgen(String Student,name, String Student.course,
float Student.marks)
  {System.out.println(Student.name,Student.course,Student.marks);
   }
,,,,
}
public Class Student
{  String name;
   String course;
   float marks;
.....
 Marks m=new Marks()
m.marksheetgen(name, course, marks);
}
```

2

(iii) For each component represented in boxes, identify the coupling type.



3

3. (a) Consider an "IoT based Healthcare Monitoring System for Heart Disease Patients". The system should monitor the patient's pressure, temperature, oxygen level using the sensors and it should alert the associated people such as Doctor, Nurse and Care takers to take appropriate action. Perform systematic analysis for the above system by applying any three phases of Requirement Engineering life cycle to prepare an errorless requirements specification document. 5

(b) Prepare Level-0 and Level-1 Data Flow Diagram for the Qn. 3(a) and showcase how data flows from one process to other using external entities and data stores. 5

4. (a) Recently, a famous supply chain vendor has surveyed possible ways to improve his business. He has found that, his organization needs to be completely redesigned with various roles such as Supply chain Analyst, Inventory manager, Outlet controller, Front office Admin and Accounts Manager. Each one has different types of responsibilities such as Route scheduling, Customer management, Cost saving, Cost Estimation, Performance monitoring, Plan implementation, Reports generation, Purchase of Items, Sales, Invoicing, Customer support, Customer payment and Reordering. As an Analyst, identify the various use case scenarios associated with each functionalities from the above description along with the actors who are performing those functionalities and represent it as a Use Case diagram. 10

5. (a) Identify the type of cohesion and provide your justification for the following code: 3

(i)
```
class Accounts
{
try {
   ....
   ResultSet rs;
..... }
catch(Exception e)
{ close(rs);
 close(fptr);
 close(con);
 updateLog();
.... }
```

(ii)
```
class Incometax{
float taxableincome;
void getIncome() { };
void calc80C() { }; void calc80D() { };
void update_taxableincome() { };
void genIT() { };
}
```

(iii)
```
class PressureAlarm {
double readPressure();
double convPressure();
char findStatus();
void raiseAlarm();
void resetAlarm();
}
```