සියලු ම හිමිකම් ඇවිරිණි / முழுப் பதிப்புரிமையுடையது / All Rights Reserved]

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இலங்கைப் பரீடசைத் திணைக்களம் இலங்கைப் பரீடசைத் திணைக்களம் இலங்கைப் பரீடசைத் திணைக்களம் இலங்கைப் பரீடசைத் திணைக்களம்
Department of Examinations,Sri Lanka Department of Examinations,Sri Lanka Department of Examinations,Sri Lanka Department of Examinations,Sri Lanka
ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
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இலங்கைப் பரீடசைத் திணைக்களம்
Department of Examinations, Sri Lanka

අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2026
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீடசை, 2026
General Certificate of Education (Adv. Level) Examination, 2026

තොරතුරු හා සන්නිවේදන තාක්ෂණය	**II**
தகவல், தொடர்பாடல் தொழினுட்பவியல்	**II**
Information & Communication Technology	**II**

20 E II

පැය තුනයි	අමතර කියවීම් කාලය - මිනිත්තු 10 යි
மூன்று மணித்தியாலம்	மேலதிக வாசிப்பு நேரம் - 10 நிமிடங்கள்
Three hours	**Additional Reading Time - 10 minutes**

Use additional reading time to go through the question paper, select the questions you will answer and decide which of them you will prioritise.

Index No: .....

Important:

- *This question paper consists of* **16** *pages.*
- *This question paper comprises of two parts,* **Part A** *and* **Part B.** *The time allotted for* ***both parts*** *is* ***three hours.***
- *Use of calculators is* ***not allowed***

PART A – Structured Essay:
(pages 2-8)

- *Answer* ***all*** *the questions* ***on this paper itself.*** *Write your answers in the space provided for each question. Note that the space provided is sufficient for your answers and that extensive answers are not expected.*

PART B – Essay:
(pages 9-16)

- *This part consists* ***six*** *questions, of which,* ***four*** *are to be answered. Use the papers supplied for this purpose.*
- *At the end of the time allotted for this paper, tie the* ***two parts together*** *so that* **Part A** *is* ***on top*** *of* **Part B** *before handing them over to the Supervisor.*
- *You are permitted to remove* ***only*** **Part B** *of the question paper from the Examination Hall.*

For Examiner's Use Only

For the Second Paper		
Part	**Question No.**	**Marks**
A	**1**	
	2	
	3	
	4	
B	**5**	
	6	
	7	
	8	
	9	
	10	
Total		

Final Marks

In numbers	
In words	

Code Number

Marking Examiner 1	
Marking Examiner 2	
Marks checked by :	
Supervised by :	

[See page two

Part A – Structured Essay

*Answer **all four** questions on this **paper itself***

Do not write in this column

1. (a) A Book lending form used in a Library Management System is illustrated in Figure 1.1. The corresponding HTML and CSS source code is shown in Figure 1.2.

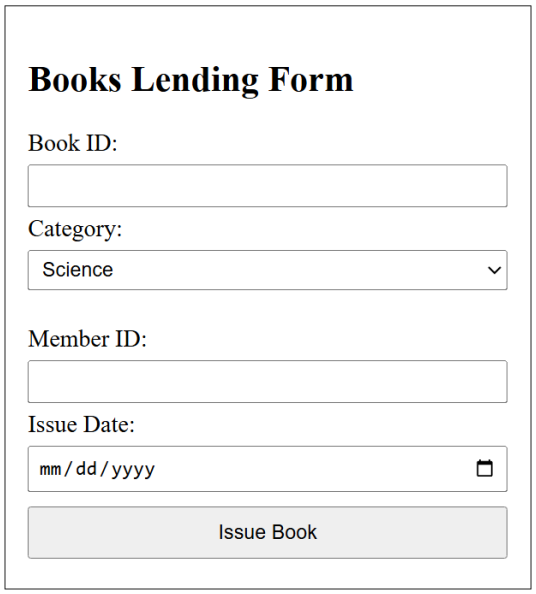


Figure 1.1: The Book lending form

(i) The code segment with blanks labelled ❶ to ❽ is shown in Figure 1.2 below.

```
<html>
<head>
<style>
    form {width:320px; padding:15px; border:1px solid black; margin-left:20px;}
    input, select {width: 100%; margin: 5px 0; padding: 5px;}
    input[type=radio] {width: auto;}
    input[type=submit] {
        background-color blue; padding: 8px;}
</style>
</head>

<body>
<form ❶ ="./issue_book.php" ❷ ="post">
    <h2>Books Lending Form</h2>
    <❸ for="bookid">Book ID:</❸>
                <input type="❹" name="bookid" id="bookid">
    <❸ for="category">Category:</❸>
                <❺ name="category" id="category">
                        <❻ value="science">Science</❻>
                        <❻ value="ict">ICT</❻>
                </❺> <br> <br>

    <❸ for="memberid">Member ID:</❸>
                <input type="❹" name="memberid">

    <❸ for="date">Issue Date:</❸>
                <input type="❼" name="date" required><br>
    <input type="❽" value="Issue Book">
</form>
</body>
</html>
```

Figure 1.2: HTML and CSS source code generated for Figure 1.1

[See page three

Do not write in this column

For each labelled blank, select the most appropriate HTML keyword from the list of options labelled A – O, and write down the option label in the answer table provided. (04 *marks*)

List of options:

A. text	B. value	C. label	D. image	E. action
F. select	G. submit	H. method	I. option	J. img src
K. number	L. a	M. input	N. reset	O. date

Answer table:

❶	❷	❸	❹
❺	❻	❼	❽

(ii) What is the syntax error in the CSS code in Figure 1.2 above, and how should it be corrected?

.....

(0.5 *marks*)

(iii) Explain how this error you identified in (ii) above affects the display of the relevant HTML element in the web browser.

.....

(0.5 *marks*)

(b) The issue_book.php script is executed when the form in Part (a) above is submitted. After submission, the system must display the **Book ID** and **Issue Date** entered by the user.

```
<?php
$var1 = $_POST[".....❶.....];
$var2 = $_POST[".....❷.....];

echo "Book ID: " . .....❸.....; echo "<br>";
echo "Issue Date: " . .....❹.....;
?>
```

Write your answers in the table below to complete the blanks labelled ❶ – ❹ in the PHP code segment above.

❶	❷
❸	❹

(02 *marks*)

(c) Consider the following HTML code segment.

```
<html>
<body>
<h2>Library Book Records</h2>
<table border="1">
<tr><th>Book ID</th><th>Category</th><th>Title</th><th>Status</th></tr>
<tr><td>B101</td><td rowspan="2">Science</td><td>Mechanics</td><td>Available</td></tr>
<tr><td>B102</td><td>Chemistry Basics</td><td>Borrowed</td></tr>
<tr><td>B103</td><td rowspan="2">ICT</td><td>Web Design</td><td>Available</td></tr>
<tr><td>B104</td><td>Programming Basics</td><td>Borrowed</td></tr>
</table>
</body>
</html>
```

[See page four

Do not write in this column

(i) Draw the expected output of the above HTML code when rendered by a web browser. Consider the following dotted line box as the display area of the web browser.

(02 *marks*)

(ii) A new ICT book record needs to be added as the last row of the ICT category, after the B104 row:

- Book ID : B105
- Title : CSS Basics
- Status : Available

Write the HTML code to add this record as a new row under the ICT category, ensuring the table structure remains correct. Write down the additional changes required to keep the table structure correct.

.....

.....

(01 *mark*)

2. (a) A commercially available library management system (**LibMIS**) allows students to register as library users through an online registration page. Once submitted, the provided information is automatically validated by LibMIS using the student details in the central school database, and user account created.

The existing library system used in your school (**SchoolLIB**) only permits the librarian to register students, by creating user accounts through an administrator page. For this, details of a student are to be input after manually verifying the respective paper-based student personal record.

In both systems, the user is notified about the result of the user registration process through e-mail.

Using the above description, answer the following questions:

(i) Write down who initiates the user registration process in the following systems:

LibMIS – .....

SchoolLIB – ..... (01 *mark*)

(ii) In the current SchoolLIB user registration process, which specific task creates an operational bottleneck (an inefficiency) during peak registration periods?

.....

(01 *mark*)

(iii) In terms of how student details are verified, write down the main process gap in data verification between LibMIS's standard process and SchoolLIB's current practice.

.....

(01 *mark*)

[See page five

Do not write in this column

(iv) Clearly state **one** specific modification, required to the SchoolLIB's User Registration business process in order to adopt to LibMIS's standard Online User Registration Page.
[Note: other than the change in data verification]

.....

(01 *mark*)

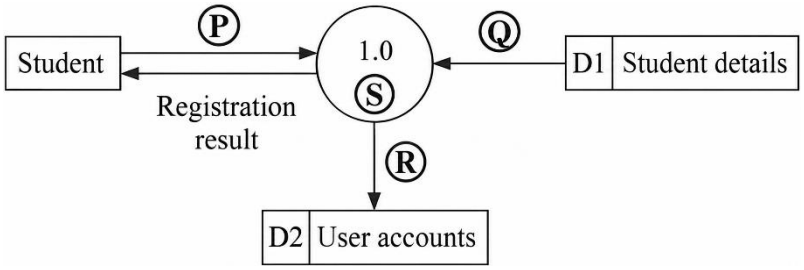
(v) Using the change identified in (iv) above, and the data verification gap identified in (iii), clearly state the reengineered business process of library user registration to align with LibMIS's current process.

.....

(01 *mark*)

(vi) Below is a partial Data Flow Diagram (DFD) fragment for the LibMIS registration process. Write down the most suitable replacements for labels Ⓟ, Ⓠ, Ⓡ, Ⓢ from the list given below.

List: {Book details, Register user, Registration details, Student details, User account details, Librarian}



Ⓟ: ..... , Ⓠ: ..... ,

Ⓡ: ..... , Ⓢ: .....

(01 *mark*)

(vii) A software tester designs test cases for the registration module of LibMIS to identify valid and invalid ID formats, without knowledge of its internal implementation. Each test case is executed, and the output is checked for acceptance or rejection. Which testing technique does this represent? Explain your answer.

.....

.....

(02 *marks*)

(b) Write the most appropriate answer to fill the blanks in the statements given below:

(i) ..... (e.g. PayPal) type Secure Payment Mechanisms allow buyers to pay for e-commerce transactions without sharing their sensitive credit card details directly with individual merchants. (01 *mark*)

(ii) Applying online for a hard copy of your birth certificate from the government registry service and paying the required fee online is an example of ..... type e-business transaction. (01 *mark*)

[See page six

Do not write in this column

3. (a) Consider the following Python program:

```
x = 0
found = False
n = int(input())

while n >= 0:
  found = True
  if n > x:
      x = n
  n = int(input())

if found:
  print (x)
else:
  print("No positive numbers were entered")
```

(i) Write the output of the program if the input sequence is 10, 5, 0, 15, 25, –1.

.....

(01 *mark*)

(ii) What is the purpose of this program?

.....

(01 *mark*)

(iii) What is the purpose of using `found` variable in this Python code?

.....

.....

(01 *mark*)

(b) Write down the replacements for the labels ❶ to ❻ of the following Python code which has been written to find the average of a set of integers terminated by a negative number.

```
total = ❶
count = 0
n = int(input())
while n >= 0:
       total = ❷
       count = ❸
       ❹
if ❺ > 0:
       average = ❻
       print (average)
else:
     print ("No positive numbers were entered")
```

❶ .....

❷ .....

❸ .....

❹ .....

❺ .....

❻ .....

(03 *marks*)

[See page seven

Do not write in this column

(c) (i) The flowchart represents an algorithm to find the reverse of a given positive integer. For example, if the input number is 1234, the output should be 4321.

Write the most suitable statements for the labels ❶ to ❺ in the given flowchart.

❶ .....

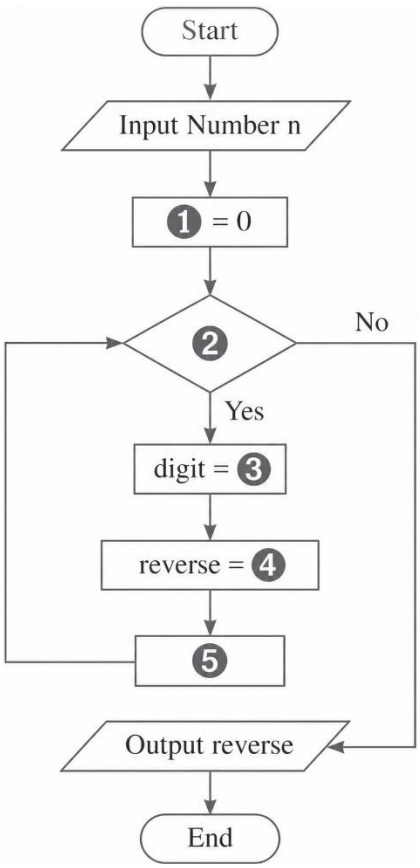
❷ .....

❸ .....

❹ .....

❺ .....

(02 *marks*)



(ii) Write a Python program to implement the completed algorithm in the flowchart using a while loop.

.....

.....

.....

.....

.....

.....

.....

.....

(02 *marks*)

4. (a) A portion of File Allocation Table (FAT) for a storage device is shown below. The portion describes the complete blocks of three files (File 1, File 2, File 3).
(Note: The last block of a file is indicated by –1.)

FAT	20	21	22	23	24	25	26	27	28
…	22	24	–1	28	25	-1	27	-1	26

(i) The directory entries for File 1 and File 2 are 20 and 21 respectively. Write down the block chains for each of the three files.

File Name	Block Chain
File 1	
File 2	
File 3	

(02 *marks*)

(ii) Calculate the total size occupied on disk by File 1 and File 3 combined, given the block size is 4 KB. Show your calculations.

.....

.....

.....

.....

(01 *mark*)

[See page eight

Do not write in this column

(iii) A multimedia application stores very large video files that grow in size over time. It also needs fast random access to any part of the file. Between linked allocation and indexed allocation, state which allocation method is more suitable for this usecase. Justify your answer.

.....

.....

.....

.....

.....

.....

(02 *marks*)

(b) A computer runs three processes P_1, P_2 and P_3 in a multiprogramming environment. At a particular moment the Operating System (OS) performs a context switch from P_3 to P_2.

(i) Write down what data the OS saves and where, during this switch.

.....

.....

(01 *mark*)

(ii) Why is context switch time considered pure overhead?

.....

.....

(01 *mark*)

(c) A computer that uses 48-bit virtual addresses has 8 GB (2^{33} bytes) of physical memory and a 4 KB page size.

(i) Give the maximum possible size of the virtual address space for a process running on this computer in bytes as a power of 2.

.....

(0.5 *marks*)

(ii) How many bits are required to store the frame number in a page table entry of a process running on this computer?

.....

(0.5 *marks*)

(iii) The virtual address 8193 of a particular process running on this computer is mapped to Frame 2 of physical memory. Write down in decimal form the physical address corresponding to the virtual address 8193. (Assume that all page numbers, frame numbers and addresses begin from 0.)

.....

(01 *mark*)

(d) When a new printer is connected to a computer, the OS cannot communicate with it until a device driver is installed. Explain why.

.....

.....

.....

.....

.....

.....

(01 *mark*)

සියලු ම හිමිකම් ඇවිරිණි / முழுப் பதிப்புரிமையுடையது / All Rights Reserved]

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இலங்கைப் பரீடசைத் திணைக்களம்
Department of Examinations,Sri Lanka

අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2026
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீடசை, 2026
General Certificate of Education (Adv. Level) Examination, 2026

තොරතුරු හා සන්නිවේදන තාක්ෂණය	**II**
தகவல், தொடர்பாடல் தொழினுட்பவியல்	**II**
Information & Communication Technology	**II**

20 E II

Part B

✻ *Answer any **four** questions only.*

5. (a) State and prove De Morgan's theorems. (03 *marks*)

(b) Show that:

$$\bar{a}\bar{b}c + \bar{a}b\bar{c} + a\bar{b}\bar{c} + abc = (\bar{a}b + a\bar{b})\bar{c} + \overline{(\bar{a}b + a\bar{b})c}$$

by solving the left-hand side of the equation using Boolean algebra. (06 *marks*)

(c) The room containing a company's confidential documents is secured by a door controlled by a logic circuit. This logic circuit is equipped with two locks and a fingerprint scanner. The supervisor and a clerk each hold one key, with each key corresponding to one of the two locks. Under normal operation, the door opens only when both the supervisor's key and the clerk's key are inserted simultaneously. However, in the absence of the clerk, the supervisor is authorized to open the door by inserting his own key and providing his fingerprint at the same time. The circuit does not operate when all three inputs are provided simultaneously. Design a logic circuit, clearly showing all the necessary design steps, to implement this access control system using only NAND gates. State assumptions you make if any. (06 *marks*)

6. A company has three departments: Production, Marketing, and Human Resource Management, located in a multi-storey building. A Local Area Network (LAN) has been established to interconnect the devices in these three departments and provide Internet access.

Each department operates on a separate subnet with its own IP address range. The organisation uses the private IPv4 address space 192.168.0.0/16 and employs Network Address Translation (NAT) to enable internet access to the devices within the internal network.

The following IP address ranges have been allocated to the Production, Marketing, and Human Resource Management departments, respectively:

- Production: 192.168.0.0/17
- Marketing: 192.168.128.0/19
- Human Resource Management: 192.168.160.0/19

The company plans to establish two additional departments–Accounting and Information Technology (IT)–in two separate newly constructed buildings. Both of these departments need to be connected to the company's existing network and provided with Internet access.

(a) Write **one** purpose of using NAT. (02 *marks*)

(b) Write the total number of addresses available in the private address space 192.168.0.0/16. (02 *marks*)

(c) If the company decides to divide the remaining available IP address Space equally between the two new departments, determine the network address in the form of xxx.xxx.xxx.xxx/yy, subnet mask, usable address range, and the broadcast address of each of the five departments. You must use the following format to structure your answer:

Department	Network address	Subnet mask	Usable address range	Broadcast address
Production				
Marketing				
Human Resource Management				
Accounting				
Information Technology				

(05 *marks*)

[See page ten

(d) Suggest suitable communication media that can be used to connect the newly established departments to the existing LAN. (02 *marks*)

(e) The company decides to install a firewall to protect the network. Identify the correct location in the network, where the firewall should be installed. Justify your answer. (04 *marks*)

7. (a) Kavindi has built a motion-sensing light using an Arduino UNO board, a PIR (Passive Infrared) sensor, an LED, and a resistor, connected as shown in **Figure 7.1**. The PIR sensor with VCC, OUT and GND pins, is shown in the top-right of the figure. It detects motion by measuring changes in infrared radiation emitted by objects in its field of view. When a warm body such as a person or animal moves within range, the sensor outputs a HIGH signal on its OUT pin.

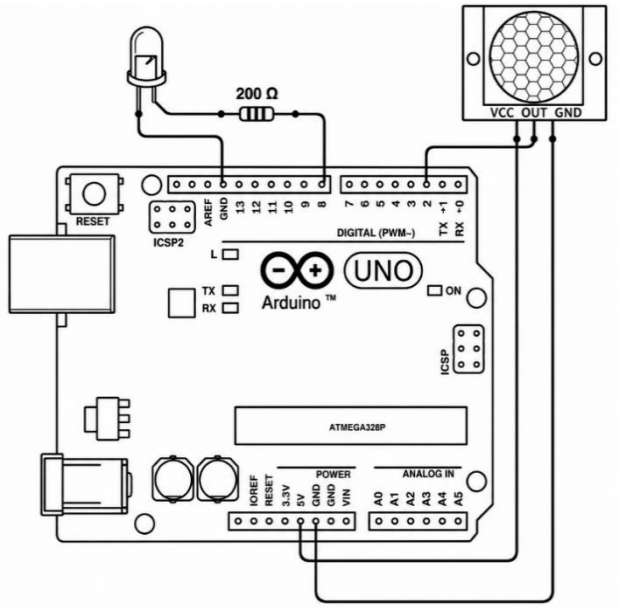


Figure 7.1

(i) The Arduino code Kavindi wrote to operate this circuit is shown below. However, some parts of the code have been left incomplete. Write down the correct entries for the blanks labelled Ⓐ, Ⓑ, Ⓒ and Ⓓ. (04 *marks*)

```
const int pirPin = Ⓐ;
const int ledPin = 8;

void setup() {
    pinMode(pirPin, Ⓑ);
    pinMode(ledPin, OUTPUT);
}
void loop() {
    int motion = digitalRead(pirPin);

    if (motion == Ⓒ) {
       digitalWrite(ledPin, Ⓓ);
       delay(10000);
       digitalWrite(ledPin, LOW);
    }
}
```

(ii) She connected a piezo buzzer to digital pin **9** of the Arduino and wants the buzzer to sound whenever a motion is detected, at the same time as the LED tums on. Modify the code inside `loop()` to add this feature. (02 *marks*)

(iii) Kavindi notices the LED also tums on during the day when a motion is detected, which is unnecessary. Suggest a sensor that could be added to the circuit so that the LED only turns on when the motion is detected at night, and suggest an Arduino pin it should be connected to. (02 *marks*)

[See page eleven

(b) A software engineering company uses a Multi-Agent System (MAS) to automate the system development lifecycle activities to produce software systems. Instead of using human software engineers as the project team, four software agents are introduced as follows:

1. Requirements Analysis Agent (RAA)
2. System Design Agent (SDA)
3. Implementation and Testing Agent (ITA)
4. Deployment and Maintenance Agent (DMA)

The company selected a client project to evaluate whether the MAS can successfully complete a realistic development project. After analyzing the requirements of this project, the company decides to follow the waterfall model for its development.

(i) Draw a suitable diagram showing the client and the MAS executing the software development process activities. (Clearly indicate each agent, their interactions, and any other related information in your diagram.) (02 *marks*)

(ii) Identify an interface agent in this setup.

(iii) Among the SDA and ITA, which agent demonstrates lower level of self-autonomy when trying to achieve its task objectives. (01 *mark*)

(c) (i) Explain the difference between how a classical computer bit and a quantum computer qubit represent data values. (01 *mark*)

(ii) Based on your answer to (i) above, explain why the processing capabilities of quantum computers present a major security challenge to widely used data-privacy mechanisms such as public-key encryption. (02 *marks*)

8. (a) A university plans to develop a database to manage lecturers, research projects, and funding agencies.

- Each research project is assigned a unique identification number [ProjectID]. Details such as the project title [Title], research area [Area], and the year in which the project commenced [Year] are maintained.
- Each lecturer is assigned a unique identification number [LectureID], and details such as the lecturer's name [LName], department [Department], email address [Email], and telephone number [TelNumber] are stored in the database. The lecturer's name is recorded as a composite attribute consisting of [FirstName], [MiddleName], and [LastName].
- A project may involve several lecturers, while an individual lecturer may contribute to multiple research projects simultaneously.
- For each lecturer involved in a project, the university records their role [Role] such as Principal Investigator, Co-investigator, or Research Assistant, and the date joined [JoinedDate].
- Research projects receive funding from external funding agencies. Each funding agency is uniquely identified by an identification number [AgencyID]. The university stores the agency name [AName], and country [Country].
- A funding agency may sponsor many research projects, but each research project is sponsored by only one funding agency.

(i) Draw the ER Diagram for above given scenario showing the entities, attributes, relationships and appropriate cardinalities for each relationship. Underline the primary key attributes.

[**Note:** Use only the terms given within square brackets in the above description for the entities, attributes and relationships.] (04 *marks*)

(ii) Write the relation schema for the above ER diagram.

[**Note:** List the tables only with the given attribute names. Underline the primary keys. Draw an arrow from each foreign key to the table it references with the arrowhead pointing to the primary key of the referenced table.] (04 *marks*)

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(b) A school maintains records of student participation in extra-curricular clubs using a single table as given below.

CLUB_MEMBERSHIP(StudentID, ClubID, AdvisorID, StudentName, ClubName, AdvisorName, JoiningDate)

The following business rules apply:

- A student may join several clubs, and a club may have many student members.
- Each club is supervised by one advisor.
- The combination (StudentID, ClubID) uniquely identifies a membership record.

(i) Identify **two** partial dependencies present in this table. (02 *marks*)

(ii) Identify **one** transitive dependency present in this table. (01 *mark*)

(iii) Decompose the table into a set of tables that satisfy the Third Normal Form (3NF). List each table with their attributes. Underline the primary key. (04 *marks*)

9. A public library in a city wants to keep records of books returned late by its members. Each library member has a unique membership number. Examples are "M001", "M002", "M003".

For each late book return, the library records two details:

1. The membership number of the member (e.g.: "M001")
2. The number of days overdue

Each record is stored as a Python tuple in the following format: (memberNo, lateDays)
e.g.: ("M002", 5) means that member "M002" returned a book 5 days late.

All late return records are stored in a Python list named lateReturns.
e.g.: `lateReturns = [("M001", 1), ("M002", 5), ("M003", 10)]`

The library calculates the fine for each member according to the following rules:

Number of late days	Fine Status/Details
0–5 days	No Fine
6–10 days	Rs. 10 per day after first 5 days
More than 10 days	Rs. 10 per day for the first 5 days and Rs. 25 per day for remaining days
Maximum fine: Rs. 500	

For example, if lateDays = 12, the fine is: (5 × 10) + (7 × 25) = 225.

(a) Write a Python function named ***calculateFine(lateDays)*** to return the fine according to the above rules. (05 *marks*)

(b) Given the following list (lateReturns), write Python code to create a new list named ***fineList*** containing only members who must pay a fine. Each item in ***fineList*** should be a tuple in the format (memberNo, fine).

```
lateReturns = [("M001", 1), ("M002", 5), ("M003", 10), ("M004", 20), ("M005", 30)]
```

(04 *marks*)

(c) Write a Python function named ***searchFine(fineList, memberNo)*** to search the fine of a given member using sequential search. The function should return the fine amount if the member is found; otherwise, it should return -1. (04 *marks*)

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(d) Write the output of the following Python code.

```
print (calculateFine (4))
print (calculateFine (7))
print (calculateFine (15))
print (searchFine([("M002", 30), ("M003", 125), ("M005", 500)], "M003"))
```

(02 *marks*)

10. (a) Consider the following scenario and answer the questions.

The ICT society of ABC School conducts seminars, workshops, competitions, and guest lectures throughout the year. Currently, student registrations are handled manually, using printed forms. This has caused duplicate registrations, incorrect participant counts, and delays in preparing attendance lists.

To address these issues, the school hired a software development company to develop a Web-based Event Registration System that supports the following requirements:

- Students should be able to view available events through the online system.
- Students should provide their Admission Number, Name, and Email address when registering for an event.
- The system should check existing registrations before accepting a new registration request.
- The system should provide confirmation after a successful registration.
- The system should be accessible at any time from different locations.
- Administrators should be able to view event registration details and participant counts.

(i) Write down **one** functional requirement and **one** non-functional requirement from the given requirements using the exact wording provided. (02 *marks*)

(ii) The software company selected the Waterfall model for developing the system. After the coding of most modules had been completed, the school requested two additional features that were not included in the original requirements: an automated email reminder before each event and a feedback form after an event.

(1) Explain **one** limitation of the Waterfall model demonstrated in this scenario. (01 *mark*)

(2) Suggest a suitable process model for this project and give a reason for your choice. (02 *mark*)

(b) A school uses a Web-based Event Registration System to manage student registrations for school events. The system was implemented using the following webpages.

Webpage	Function
index.html	Allows students to enter their StudentID
events.php	Displays available events
register.php	Processes event registration

A student first enters their StudentID in index.html. The request is then sent to events.php to display available events. The system uses the following two database tables:

- EVENT(EventID, EventName, EventDate)
- REGISTRATION(RegistrationID, StudentID, EventID, RegistrationDate)

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Refer to Figure 10.1 and Figure 10.2 and answer the following questions.

```
<?php
$conn = mysqli_connect ("localhost", "root",
"UnI223@5", "SchoolDB") ;
$studentID = $_POST["studentID"];

$sql = "SELECT * FROM EVENT";
$result = mysqli_query($conn, $sql);

while ($row = mysqli_fetch_assoc($result)) {
?>
<form method="post" action="register.php">
     <input type="hidden" name="studentID" val-
ue="<?php echo $studentID; ?>">
     <input type="hidden" name="eventID" val-
ue="<?php echo $row["EventID"]; ?>">
     <?php echo $row["EventName"]; ?>
     <input type="submit" value="Register">
</form>
<?php
}
?>
```

Figure 10.1: Code Segment of events.php

```
<?php
$conn = mysqli_connect ("localhost", "root",
"UnI223@5", "SchoolDB");
$studentID = $_POST["studentID"];
$eventID = $_POST["eventID"];

$sql = "-.....Ⓐ.....
.....";

mysqli_query($conn, $sql);

echo "Registration Successful";
?>
```

Figure 10.2: Code Segment of register.php

(i) What is stored in the variable `$result` after executing the following statement in events.php?
`$result = mysqli_query($conn, $sql);` (01 *mark*)

(ii) Modify the SQL statement in events.php to retrieve only EventID and EventName from the EVENT table. (02 *marks*)

(iii) Explain the purpose of the hidden input fields (StudentID and eventID) used in events.php. (02 *marks*)

(iv) Write the SQL statement required to replace blank Ⓐ in register.php to insert a new registration record into the REGISTRATION table using StudentID, EventID, and RegistrationDate. Assume that RegistrationID is automatically generated. (02 *marks*)

(c) (i) Compare the main difference between **Direct Deployment** and **Parallel Deployment** in terms of cost and operational risk. (01 *mark*)

(ii) XYZ bank is replacing its main systems and the databases following Direct Deployment method. Do you recommend this deployment? Explain your reasoning. (02 *marks*)

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