

2011000604020001
EXAMINATION FEBRUARY-MARCH 2024
B. SC. (I. T.) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE)
(FOURTH SEMESTER)
FUNDAMENTAL OF EMBEDDED SYSTEM AND
IOT-LEVEL 2

[Time: As Per Schedule]

[Max. Marks: 70]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination: **B. SC. (I. T.) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE) (FOURTH SEMESTER)**
 - b. Name of the Subject : **FUNDAMENTAL OF EMBEDDED SYSTEM AND IOT-LEVEL 2**
 - c. Subject Code No : **2011000604020001**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Answer the following questions

16

A) Answer the following short questions in detail. (Any Four)

4

- 1) _____ is the RAM address range for register bank-0 in 8051 microcontroller?
- 2) ARM-7 microcontroller is _____ bits microcontroller?
- 3) List out four different applications of Bluetooth based embedded system?
- 4) List out different type of memories are available in 8051 microcontroller?
- 5) What could be the storage capacity of Passive RFID tag?

B) Answer the following questions (Any Two)

12

- 1) Explain Global storage class and static storage class with the help of c-program example.
- 2) Explain humidity sensor and Temperature sensors in detail.
- 3) Explain any three bitwise operators with the help of appropriate example.

Q.2 Answer the following questions (Any Three)

18

- 1) List out different embedded system development tools. Explain simulator and Integrated Development Environment (IDE) in detail.
- 2) Draw 8051 microcontroller block diagram and explain ALU, Stack pointer and program status word(PSW) register in detail.
- 3) List out different stages of water fall development model and describe first two stages in detail.
- 4) Explain Piconet and Scatternet concept of Bluetooth communication in detail.

Q.3 Answer the following questions (Any Three)

18

- 1) Describe UART communication and explain PCON register in detail.
- 2) Write short note on Analog to Digital convertor (ADC).
- 3) Explain all registers of timer device available in 8051 microcontroller.
- 4) Write program to store separated even numbers and odd number from given 10 numbers of arrays and store largest even value in variable named "large_even". Write comments after each and every instruction written in program.

Q.4 Answer the following questions

18

A) Answer the following short questions in detail. (Any six)

6

- 1) How many pins are uses in SPI communication?
- 2) What is the full form of RFID?
- 3) What do you mean by "Internet of Things (IoT)"
- 4) List out different applications of RFID?
- 5) What is Embedded System?
- 6) _____ register of 8051 microcontroller is use to decide which Interrupt get service first when more than two interrupts requested simultaneously.
- 7) What is the difference between static storage class and auto storage class?

B) Answer the following short questions in detail. (Any Three)

12

- 1) Write a note on Ethics requirement in Internet of Things (IoT).
- 2) Write short note on I2C communication.
- 3) Draw ARM-7 microcontroller architecture and current program status register(CPSR).
- 4) Write a note on Ultrasonic sensor

2011000604030001
EXAMINATION FEBRUARY-MARCH 2024
B. SC. (I. T.) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE)
(FOURTH SEMESTER)
VB.NET-LEVEL 3

[Time: As Per Schedule]

[Max. Marks: 70]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination: **B. SC. (I. T.) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE) (FOURTH SEMESTER)**
 - b. Name of the Subject : **VB.NET-LEVEL 3**
 - c. Subject Code No : **2011000604030001**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Answer Following: [Any 6]

18

- (a) Explain CTS and CLS.
- (b) Explain Input box.
- (c) What is use of Connection object? Discuss about Connection Object.
- (d) Explain Textbox Control.
- (e) Explain Radio Button Control.
- (f) What is Variable? Discuss in brief about variable.
- (g) Discuss about function.

Q.2 Answer following questions: [Any 3]

18

- (a) Explain CLR.
- (b) List different types of dialog box available in .Net. Explain Color dialog box and Print Dialog box.
- (c) Explain Collection object.
- (d) What is Container control? Explain form in detail.

Q.3 Answer following questions: [Any 3]

18

- (a) Explain Data Reader Object.
- (b) Explain ToolStrip and Status Strip Control.
- (c) Explain Combobox and PictureBox Control.
- (d) Explain ADO.Net Architecture in detail.

Q.4 Answer following questions: [Any 4]

16

- (a) Explain Data Adapter Object.
- (b) Explain Array in detail
- (c) Explain Timer Control.
- (d) Explain FCL.
- (e) Explain Command Object in detail.

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EXAMINATION FEBRUARY-MARCH 2024
B. SC. (I. T.) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE)
(FOURTH SEMESTER)
RELATIONAL DATABASE MANAGEMENT SYSTEM - I
LEVEL 4

[Time: As Per Schedule]

[Max. Marks: 70]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination: **B. SC. (I. T.) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE) (FOURTH SEMESTER)**
 - b. Name of the Subject: **RELATIONAL DATABASE MANAGEMENT SYSTEM – I - LEVEL 4**
 - c. Subject Code No: **2011000604040001**
2. Sketch neat and labelled diagram wherever necessary.
 3. Figures to the right indicate full marks of the question.
 4. All questions are compulsory.

Seat No:

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Student's Signature

- Q.1 A)** Create an EER diagram for online movie ticket booking system. Assume that only one theatre is considered for movie ticket. The customer can make payment with any available methods. Use specialization/generalization concept for one entity. **9**

B) Answer following questions [Any three] **9**

- 1) What is the impact of on delete cascade constraint?
- 2) Explain the use of having condition in group by clause?
- 3) Explain transitivity and reflexivity rules of armstrong's axiom with an example.
- 4) Explain user_constraints table.

Q.2 Answer the following questions in brief [Any Six]

18

- 1) Write a relational algebra based query for listing female employee detail having salary more than 50000 from employee table.
- 2) Explain any three numeric SQL functions with example.
- 3) Explain multi valued dependency?
- 4) What is NOT NULL constraint?
- 5) What is transitive functional dependency?
- 6) How to give check constraint? Explain with example.
- 7) Explain trivial and non-trivial functional dependency.
- 8) Explain aggregation concept of EER diagram.

Q.3 Attempt any THREE questions in detail,

18

- 1) Explain inner join and outer join with example in detail.
- 2) What are the different ways to give primary key and foreign key in a table?
- 3) Explain the steps of query processing. How query optimization works?
- 4) What is 3NF? What are the necessary condition for a relation to be in 3NF? Explain the process of converting 2NF relation to 3NF with example.

Q.4 A) Answer following questions [Any Three]

9

- 1) Explain multiple row sub query with example.
- 2) Explain any three codd's rule for RDBMS
- 3) Explain following errors: 'parent key not found', 'table or view already exists'
- 4) What is the difference between read only view and updatable view?

B) Create following tables with primary and foreign key. 3

STUD (STUDIId, Name, City, stream) MARKS (STUDIId, Sub1Mark, Sub2Mark)

C) Solve the queries based on above tables 4

- 1) Find the student detail who have secured highest marks in subject2
- 2) Count the total number of students for each stream (science, commerce)

2011000604050001
EXAMINATION FEBRUARY-MARCH 2024
B. SC. (I. T.) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE)
(FOURTH SEMESTER)
WEB DEVELOPMENT - I - LEVEL 5

[Time: As Per Schedule]

[Max. Marks: 70]

Instructions:

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- a. Name of the Examination: **B. SC. (I.T) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE) (FOURTH SEMESTER)**
 - b. Name of the Subject: **WEB DEVELOPMENT – I – LEVEL 5**
 - c. Subject Code No: **2011000604050001**
2. Sketch neat and labelled diagram wherever necessary.
 3. Figures to the right indicate full marks of the question.
 4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Answer the following. (Any 8)

16

1. What is use of XML in development of a Web application?
2. Write a JavaScript code to alert width of window on a click of a button.
3. Write JavaScript code to display browser information?
4. Write use of querySelectorAll() function.
5. Explain the use of "this" keyword with an example.
6. What is the absolute and relative path?
7. Write use of strict mode in JavaScript with example.
8. Explain prompt () with an example.
9. List out at least four features of jQuery.

Q.2 Answer the following. (Any 3)

18

1. Explain global object in JavaScript with its properties, methods and events.
2. What are different ways to define strings in JavaScript? Explain string methods with examples.
3. List and explain mouse events with example.
4. Write a detail note on XML schema.

Q.3 Answer the following. (Any 3)

18

1. Draw client-server architecture of web application and explain in detail.
2. Write a note on regular expressions in JavaScript with examples.
3. Discuss in detail on JSON and also list its applications. Create a sample JSON file. How to process JSON data in JavaScript?
4. List and explain jQuery important selectors with examples.

Q.4 Answer the following. (Any 3)

18

1. Explain localStorage and sessionStorage objects with examples.
2. Explain the use of jQuery AJAX method \$.get() with an example.
3. Explain different ways to create user defined objects in JavaScript.
4. Write a JavaScript code to validate a form for employee registration with name, email and age (23 to 35) fields. Apply necessary criteria.

2211000604010002
EXAMINATION FEBRUARY-MARCH 2024
B. SC. (I. T.) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE)
(FOURTH SEMESTER)
ENVIRONMENTAL STUDIES AND DISASTER RISK
REDUCTION-LEVEL 1

[Time: As Per Schedule]

[Max. Marks: 70]

Instructions:

1. Fill up strictly the following details on your answer book

a. Name of the Examination: **B. SC. (I. T.) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE) (FOURTH SEMESTER)**

b. Name of the Subject : **ENVIRONMENTAL STUDIES AND DISASTER RISK REDUCTION-LEVEL 1**

c. Subject Code No : **2211000604010002**

2. Sketch neat and labelled diagram wherever necessary.

3. Figures to the right indicate full marks of the question.

4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Answer the following questions in detail: (Any 2)

14

1. What is meant by air pollution? State its harmful effects.
2. Discuss the various strategies of stress management.
3. Explain the classification of disasters in detail giving examples.

Q.2 Answer in Brief: (Any 4)

14

1. Why is there a need for public awareness regarding the conservation of environment?
2. Which are the key steps to be taken for the management of E-waste?
3. Explain Nuclear hazards with examples.
4. What is the global impact of climatic changes on human beings and species?
5. Discuss any three water related diseases.

Q.3 Explain the following concepts: 14

- | | | |
|------------------------|-------------------------|----------------------|
| 1. Food waste | 2. Ocean acidification | 3. Trauma management |
| 4. Pollution | 5. Population Explosion | 6. Pandemic |
| 7. Disaster mitigation | 8. Soil erosion | 9. First aid |

Q.4 Write Short notes on: Any 2 14

1. Resettlement and Rehabilitation of People and its concerns
2. Water related Hazards and disasters
3. Methods of solid waste collection and disposal
4. Covid-19 and its impact on physical and mental health

Q.5 Answer in one sentence :(Any 7) 14

1. Name 3 government institutions involved in environment research.
2. What are the 4 approaches to green computing?
3. Which are the two impacts of population explosion?
4. Give any three social impacts of disaster.
5. Who are most affected by oil and chemical spills?
6. Which are the natural causes of pollution?
7. Which are the diseases caused due to the somatic effect of radioactive pollution?
8. What is meant by toxic relationship?
9. Name 5 infectious diseases.
