



BCA (MA & FSD) II () - IV (Main/Back) End Semester Examination, April 2024

BMFCCA4103: Backend Development with Node JS

Time: 3 Hours

Total Marks: 60

Min. Passing Marks: 21/24/27

Question Paper ID: 000712

Instructions: Attempt all five questions. There is an internal choice either (a or b) in Q1 to Q5. Marks of each question or its parts are indicated against each question/part. Draw neat sketches wherever necessary to illustrate the answer. Assume missing data suitably (if any) and clearly indicate the same in the answer.

Bloom Level(BL): 1-Remembering, 2-Understanding, 3-Appling, 4-Analysing, 5-Evaluating, 6-Creating

Use of following supporting material is permitted during examination for this subject: Nil

Q1. (a) (i) Differentiate the Traditional Web Server Model and Node js Process Model with examples. (6 Marks) **Marks BL CO**
12 1 1

(ii) Elaborate on the features of node js with proper examples. (6 Marks)

(OR)

(b) Explain the following with an example: $6 \times 2 = 12$

(i) Non-Blocking IO Model

(ii) Event Driven Node Js

Q2. (a) Assume you are a content creator for an Edu-Tech company. You are assigned a task to write a comparative note between function and module for your client. Mention both with their subtypes with examples. (12 Marks) **Marks BL CO**
12 1 2

(OR)

(b) Suggest with an example the situation where you would like to apply the following concepts in the context of node js: $6 \times 2 = 12$

(i) High Order Functions

(ii) Buffer use cases

Q3. (a) Differentiate the Synchronous and Asynchronous with its use cases with proper example (12 Marks) **Marks BL CO**
12 1 3

(OR)

(b) Explain the following with an example: $4 \times 3 = 12$

(i) WithFile v/s WithoutFile

(ii) Remove a directory

(iii) Delete v/s Truncated

Q4. (a) (i) "Node Js has capabilities to use its proxy web server". Elaborate this statement with an example. (6 Marks) **Marks BL CO**
12 1 4

(ii) Explain the key features of express js. What is its advantage over the node js in the context of HTTP programming? (6 Marks)

(OR)

(b) (i) How does node js handle the HTTP requests? Suggest an example with JSON-type data. (6 Marks)

(ii) Mention the directory structure of express js with proper commands (6 Marks)

Q5. (a) Perform the following operation in node js and MySQL: **Marks BL CO**
12 1 5

(i) Create tables with the following schemas

User (id (primary key), Name, deptid(foreign key) of Department table)

Department(deptis(Primary key), Departname)

(ii) insert the required data in both tables and display it

(OR)

(b) Perform the following operation in node js and MySQL:

(i) Create tables with the following schemas

Books (id (primary key), BookName, authorid(foreign key) of authorname table)

Department(authorid(Primary key), authorname)

(ii) Write node js to find the BookName of a specific author,given by user,

End of Question Paper