

[This question paper contains 8 printed pages.]

Your Roll No.....65.....

Sr. No. of Question Paper : 1006

C

Unique Paper Code : 32341501

Name of the Paper : Internet Technologies

Name of the Course : B.Sc. (H) Computer Science

Semester : V

Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. **Section A** is compulsory.
3. Attempt any **FOUR** questions from **Section B**.

SECTION A

1. (a) Explain the following Networking Protocols with an suitable example :

- ipconfig
- tracert

(4)

P.T.O.

- (b) Write the network address, broadcast address, valid host addresses and subnet mask for the IP address. 198.2245.173/26 (4)
- (c) What do you understand by Proxy Server? Write any two advantages of using it. (4)
- (d) Explain setTimeout() and setInterval() functions with examples. (4)
- (e) Write any four differences between Forum and Blog. (4)
- (f) Given the JSON object: (2)
- ```
myJson = { "name" : "nested",
 "marks" : 45,
 "Item" : ["food", "clothes", {"a" : true}]
 }
```

Write the value of a.

- (g) Write a JavaScript program to Greet the user based on the current time. (3)
- (h) Explain the difference between static routing and dynamic routing. (3)

- (i) You need to subnet a network that has 5 subnets, each with at least 16 hosts. Which of the following subnet masks are valid in the above situation?

(i) 255.255.255.192

(ii) 255.255.255.224

(iii) 255.255.255.240

(iv) 255.255.255.248 (2)

- (j) What are cookies? Explain Sessions in a cookie. (3)

- (k) Define `JSON.stringify()` and `JSON.parse()` functions. (2)

## SECTION B

2. Write short notes on following : (10)

(i) Crawling

(ii) Indexing

(iii) Internet Protocols

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(iv) Internet Vs. Intranet

(v) Domain Name Server

3. Given the list : (10)

- John
- Merry
- Martian
- Ketty

Write statements using JQuery to perform the following functions :

(i) Add two names "Mat" and "Damon" in the above list such that the resultant list appears as follows:

- Mat ✓
- John
- Merry
- Martian
- Ketty
- Damon ✓

(ii) Add surnames to the names in the list such that the resultant list appears as follows :

- Mat Jonas
- John Mathew
- Merry lane
- Martian steven
- KettyGadot
- Damon Hartley

(iii) Add a class as "MyName" to each of the list item.

(iv) Give a background color to the list.

(v) Clicking on a list item should change its background color.

4. (a) What is Network address translation and why do we need it. Explain with a suitable example.

(5)

(b) What is a JSON object? Write the syntax to add a JSON object to define a student having details: name of the student, university roll number, course name, mobile number and email. (5)

5. (a) Explain following Bootstrap elements : (5)

- Pagination
- List Groups
- Panels
- Navbar
- Dropdowns

(b) Create an HTTP Server using Node.js which handles requests on port 8000. Create auser.html file with two forms Register and Login. On clicking login option, form must search for credentials of the user in MYSQL database. On successful login, a Welcome page should be displayed. On clicking Register option, form must insert the user's credentials in MYSQL database. On successful Registration, the user must return to the user.html page. (5)



6. (a) Create an HTML page with one input field, one radio button and a text field for display. The first input field will take a mathematical expression as input. The two radio buttons will be displayed as SQUARE and DOUBLE. Whichever option is selected by the user, the result of the mathematical expression as entered by the user, will be squared or doubled and the corresponding answer should be displayed in the text field. (5)
- (b) Create a form that takes data about a customer. The form must be well designed and should accept the customer's FirstName, LastName, Age, Birthday and FoodPreferences. At the submission of this form, create a Customer object in JavaScript using the above values and an equivalent JSON object. Print both these objects on the console. Using AJAX, display the data of two customers in a presentable way. (5)
7. (a) What are the various components of an email? Define the mail message format of SMTP. Also discuss the functionalities of any TWO mail access protocols. (5)

- (b) What are event listeners? Why it is used. Explain it with an example. (5)