

**WEB TECHNOLOGY
(CSBS 4134)**

Time Allotted : 2½ hrs

Full Marks : 60

Figures out of the right margin indicate full marks.

Candidates are required to answer Group A and any 4 (four) from Group B to E, taking one from each group.

Candidates are required to give answer in their own words as far as practicable.

Group – A

1. Answer any twelve:

12 × 1 = 12

Choose the correct alternative for the following

- (i) In which part of the HTML metadata is contained?
(a) body tag (b) html tag
(c) head tag (d) title tag
- (ii) Metadata store information about the web page that is not necessarily visible to end users.
(a) True (b) False
(c) Can not specify until it is loaded (d) Partially visible
- (iii) Which of the following tag is used with JavaScript?
(a) <table> (b) <canvas>
(c) <article> (d) <footer>
- (iv) What is the purpose of JavaScript in web development?
(a) To structure web pages
(b) To style web pages
(c) To add interactivity and dynamic content to web pages
(d) To store data on the server.
- (v) What type of database is MongoDB?
(a) Relational (b) Document-Oriented
(c) Graph (d) Key-Value.
- (vi) In MongoDB, what does the term 'collection' refer to?
(a) A group of databases (b) A single document
(c) A group of documents (d) A type of index.
- (vii) In MongoDB, what is the role of the mongod process?
(a) Manages the database (b) Runs the shell interface
(c) Manages client connections (d) Handles replication.

- (viii) Which directive initializes application data?
 (a) ng-app (b) ng-init
 (c) ng-model (d) ng-application
- (ix) Which directive repeats an HTML element?
 (a) ng-repeats (b) ng-iterate
 (c) ng-model (d) ng-repeat
- (x) Which AngularJS function creates a new directive?
 (a) .new (b) .create
 (c) .directive (d) .CreateDirective

Fill in the blanks with the correct word

- (xi) _____ element does not support autofocus attribute.
- (xii) An article element contains _____ .
- (xiii) _____ directives is used to start an angularJS application.
- (xiv) _____ is an asynchronous equivalent for a function.
- (xv) A document is a set of _____.

Group - B

- 2. (a) What is Meta data? How to specify the metadata in HTML5? *[[CO1](Understand/LOCQ)]*
 (b) What is meta data in web? What is a metadata tool? *[[CO1](Understand/LOCQ)]*
 (c) What is the purpose of metadata? Explain <meta> tag within an HTML document. *[[CO1](Understand/LOCQ)]*
4 + 4 + 4 = 12
- 3. (a) What is a semantic search engine? Explain with example. *[[CO1](Understand/LOCQ)]*
 (b) What type of search engine is Google? How does Google do the semantic search? *[[CO1](Understand/LOCQ)]*
 (c) Compare and Contrast between Semantic search and Semantic Web. *[[CO1](Analyse/IOCQ)]*
4 + 4 + 4 = 12

Group - C

- 4. (a) What do you understand by asynchronous programming? Write a JavaScript code to implement real-world use cases for asynchronous programming. *[[CO3](Apply/IOCQ)]*
 (b) Explain with examples of JavaScript code to implement: slice(), splice() methods of Array. *[[CO3] (Apply/IOCQ)]*
 (c) Describe the functionality of the following HTML DOM events with JavaScript code: mousedown, load. *[[CO3] (Apply/IOCQ)]*
4 + 4 + 4 = 12
- 5. (a) What is the difference between client-side and server-side JavaScript? *[[CO3](Remember/LOCQ)]*

- (b) What is an anonymous function? Is it possible to assign an anonymous function to a variable? *[[CO3](Remember/LOCQ)]*
- (c) Write a JavaScript program to get the length of a JavaScript object. *[[CO3](Apply/IOCQ)]*
- 4 + 4 + 4 = 12**

Group - D

6. Create one Hospital Management System using MongoDB Database. Designs the system do the following operation.
- (I) Create a database named “ABC Hospital”. Create collections named “Doctor” and “Patient”. *[[CO6](Apply/HOCQ)]*
- (II) In the Doctor collection insert two documents:-
 Doctor Id: "D01", Doctor Name: "Dr. Arijita Nandi", Qualification: "MBBS", Reg No: 5326, Year of Exp: “5 Years”.
 Doctor Id: "D02", Doctor Name: "Dr. Bidisha Das", Qualification: "MD", Reg No: 7359, Year of Exp: “7 Years”.
 In the Patient collection insert two documents:-
 Patient Id: "P01", Patient Name: "Tapati Roy", Contact No: 234567891, Address: “Kolkata”, No. of Visit : 5.
 Patient Id: "P02", Patient Name: "DolaMitra", Contact No: 735921684, Address: “Delhi”, No. of Visit : 7. *[[CO6](Apply/HOCQ)]*
- (III) (i) Find the list of Doctors whose Qualification is “MBBS”
 (ii) Change the Address to “Madras” whose Id is “P02”
 (iii) Delete the Doctors Details who’s Qualification are “MD”. *[[CO6](Apply/IOCQ)]*
- (2 + 4 + 6) = 12**
7. (a) What are the advantages of Node.js? *[[CO4](Remember/LOCQ)]*
- (b) Compare and contrast between blocking and non-blocking operations with an example. *[[CO4](Analyse/IOCQ)]*
- (c) What is REPL Terminal? Write two commands with its utility of the REPL Terminal. *[[CO4](Remember/LOCQ)]*
- 4 + 4 + 4 = 12**

Group - E

8. (a) Describe the process of interpolation in the context of AngularJS with example. *[[CO5](Evaluate/HOCQ)]*
- (b) Explain the file structure of app component in the context of AngularJS. Discuss how Event Binding works in AngularJS. *[[CO5](Understand/LOCQ)]*
- 6 + (3 + 3) = 12**
9. (a) Take an input field. The background color of the input box will be whatever you write in the input field. Write an AngularJS code to implement this feature. *[[CO5](Apply/IOCQ)]*
- (b) Compare and Contrast between AngularJS Expressions and JavaScript Expressions with a proper example. *[[CO5](Analyse/IOCQ)]*

- (c) Implement an AngularJS code with proper example to add a controller to your application, and refer to the controller with the ng-controller directive.

[[CO5)(Apply/IOCQ)]

4 + 4 + 4 = 12

Cognition Level	LOCQ	IOCQ	HOCQ
Percentage distribution	43.75	43.75	12.5