Examination	:	Block Sessional	Seat No.	:
Date	:	05/04/2018	Day	: Thursday
Time	:	11:00 to 12:15 PM	Max. Marks	: 36

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 **Do as directed**. **[12]**

(a) Assume that on an HTML page, there is "DIV" Tag with ID ="Change", which contains Text [2] "Hello". Write a css code fragment that can change color of only first character of the text (e.g., "Hello") to red.

(b) Discuss "scope" and "rootscope" with proper example in context of AngularJS application. [2]

(c) Write code fragment to traverse all key value pairs of a Map [2]

(d) Define annotation @ExamNo using nested annotation @RollNo which is having two members: [2] branch and serialNo. The annotation can be applied to only a field and the annotation information should be available at runtime.

(e) Write about uses of default methods that are available in Java 8. [2]

(f) In context of Spring MVC, discuss session creation and termination. [2]

Q.2 **Answer the following** **[12]**

(a) Draw class diagrams for the following design patterns: [6]
(1) Factory
(2) Façade

(b) Create jQuery compliant one page HTML calculator application. Write jQuery as well as [6] HTML page code for the application. (Assume that there are Two Textboxes for input of two numbers, One Textbox for displaying result, four Buttons for performing Addition, Subtraction, Multiplication, and Division Operations.)

Q.3 **Answer the following** **[12]**

(a) A SpringMVC framework based application is to be created for retrieving Student Certification [5] information. Using Web UI form (URL: /certification.html, view page: Certification.jsp), a user should be able to submit the following information: name of student, certification title, date of certification, and marks or score obtained. Choose appropriate data types in Spring MVC controller for accepting incoming information from the form. Valid marks or scores are 0 to 5 and valid date should not be a future date.
Write code for the following: (i) annotation based CertificationController with validation of the two fields (score and date), and (ii) configuration file for dispatcher servlet

(b) Write a Hibernate based Java application using annotations that allows storing of Person [5] (name, age) and his Address (City, State, and Telephone Number) details in DB tables in MySQL database. Write the following: (1) hibernate configuration file, (2) Person entity, and (3) Address entity (Assume that one person has only one permanent Address).

(c) Write code fragment to assign a callback function for AJAX call. [2]