Examination	: **Third Sessional**	Seat No.	:
Date	: **26/03/2018**	Day	**: Monday**
Time	: **12:00 to 1:15 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) Discuss *ng-app*, *ng-controller*, and *ng-model* directives of AngularJS application. [2]
   (b) Write AngularJS application, in which a Textbox is provided. When a user writes any color name in the Textbox, then the back-ground color of the Textbox should change to that color. [2]
   (c) Write a bootstrap compliant HTML page that has popover effect, i.e when a user clicks on a particular "Link or Button", a pop-up menu should appear and if the user clicks it again, the pop-up menu should disappear. [2]
   (d) Using suitable example, explain SpringConfig.xml for initializing a bean using two-argument constructor. [2]
   (e) How can we implement interceptor in Spring MVC? Explain using code fragment. [2]
   (f) Write code fragment to create a message source bean that reads property file (myvalidationmessages.property) related to validation error messages. [2]

Q.2 Attempt *Any Two* from the following questions. **[12]**
   (a) Create an AngularJS application for number conversion of decimal to hexadecimal, octal, and binary. In this application, a user can enter the following: enter a decimal number in one TextBox and select the Number format (i.e. Hexadecimal, Octal or Binary) from a dropdown menu. On selection of number format, the entered number should be converted into the selected number format and result should be displayed in another Textbox. Write code for HTML page for Application along with AngularJS code. [6]
   (b) Draw a detailed interaction diagram showing working of Spring MVC framework. Explain configuration of involved components using spring-dispatcher-servlet configuration file. [6]
   (c) Using suitable example, explain creating, using, and managing session in SpringMVC application. Write appropriate code fragments to be used in various controllers and views. [6]

Q.3 Attempt *ALL* from the following questions. **[12]**
   (a) Using suitable example of hibernate entity, explain and discuss all possible values of "hibernate.hbd2.ddl.auto" property and its operation on database. Write code of entity class, main class, and hibernate.cfg.xml file. [6]
   (b) A SpringMVC framework based application is to be created for class-room management with the following functionality. Using Web UI form (URL: /insertRoom.html, view page: InsertRoom.jsp), a user should be able to submit the following information: room number, name of the room, floor number, and date of inception. Choose appropriate data types for accepting incoming information from the form. Write code for the following: RoomController and Room (Model class). Write only names of form fields used in HTML form for room attributes. [6]

OR

Q.3 Attempt *ALL* from the following questions. **[12]**
   (a) Write annotation based Hibernate application to allow bidirectional mapping for Many-to-Many relationship between two hibernate entities: Student (having properties: stId, name) and Event (having properties: Event_Id, Event_Name). Many students can participate in multiple events. Write code for the following: Student (hibernate entity) and Event (hibernate entity). The relation is owned by Student entity. Also discuss in brief about the use of *mappedBy* property for bidirectional mapping. [6]
   (b) Answer the following: [4]
      (i) Using a suitable example, explain customizing date format using WebDataBinder object.
      (ii) Explain with examples: @InitBinder annotation, and @ModelAttribute annotation applied on method.
   (c) In the context of Spring MVC, write validation annotation code fragments for: [2]
      (i) Birth date,
      (ii) 10 digits mobile number valid in India (first digit as 6, 7, 8, or 9)
      (iii) Student's roll no for IT branch (e.g., IT-001, IT-120, etc.)
      (iv) Appointment date