**18CS503**

**Hall Ticket Number:**

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| **III/IV B.Tech (Regular) DEGREE EXAMINATION** | | | |
| **February, 2021** | **Computer Science and Engineering** | | |
| **Fifth Semester** | **Enterprise Programming** | | |
| **Time:** Three Hours | | **Maximum :** 50 Marks | |
| *Answer ALL Questions from PART-A.* | | | (1X10 = 10 Marks) |
| *Answer* ***ANY FOUR*** *questions from PART-B.* | | | (4X10=40 Marks) |

**1.** Answer all questions (1X10=10 Marks)

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| a | Differentiate between PUT and POST operations in REST API |
| b | Name the types of JDBC drivers? |
| c | Write the syntax of JSP expression tag. |
| d | List any two implicit objects in JSP? |
| e | Write the syntax for <c:if> tag. |
| f | Name the annotation with which url mapping of a servlet can be done. |
| g | What does JSTL stand for? |
| h | Name two types of Session beans |
| i | What is the protocol used by web sockets? |
| j | What is the header sent by a client socket in the initial handshake? |
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**Part - B**

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| 2.a | Name the different APIs for the development of JAVA EE Applications and explain about Java EE platform architecture with a neat sketch. | 5M |
| b | Code a servlet that takes Regd.No. and the Name of a student and inserts in the ***rolls*** table of ***student*** database. | 5M |

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| 3.a | Explain the classes and interfaces needed to code a JDBC application. | 5M |
| b | Design a JDBC program that connects to a ***dept*** table of ***emp*** database and prints the details of all the departments. | 5M |

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| 4.a | Design a JSP to find the factorial of a given number and sends it as reponse. | 5M |
| b | Explain all the implicit objects available in a JSP. | 5M |

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| 5.a | Code a JSF application which registers a user with a name (required) and an email id (to be validated). Design the backing bean with all the needed methods. | 5M |
| b | Explain any three managed bean scopes. | 5M |

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| 6.a | Explain the web services and REST API. | 5M |
| b | Code of a web service providing GET and POST operations on a collection of resources. Design the resource class. | 5M |

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| 7.a | Explain the working model of websockets and its life cycle events. | 5M |
| b | Code and explain a web socket client. | 5M |

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| 8.a | Explain the features of EJB and different types of beans and interfaces. | 5M |
| b | Code a session bean with local interface and a web client. | 5M |
| 9.a | Explain the annotations and the life cycle of a stateful session bean. | 5M |
| b | Code a session bean that takes temperature in Fahrenheit and returns its Celcius equivalent. | 5M |

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