**Naresh I Technologies**

**Test Paper**

**B – 40**

Develop a Servlet-based application for managing employee data with the following requirements:

1. **Employee Registration Form (5 Marks)**  
   Create an HTML form with fields:
   * Employee ID (number)
   * Name (text)
   * Email (email)
   * Department (dropdown: HR, IT, Finance)
   * Salary (number)
2. **Employee Bean (8 Marks)**  
   Create Employee.java bean class with:
   * Properties matching form fields
   * Default constructor
   * Getter/setter methods
   * Input validation in setters (email format, salary > 0)
3. **Servlet Lifecycle Implementation (10 Marks)**  
   Create EmployeeServlet.java with:
   * init(): Initialize database connection
   * doPost(): Handle form submission
   * destroy(): Close database resources
4. **DAO Layer (12 Marks)**  
   Implement EmployeeDAO.java with:
   * saveEmployee(Employee e): Store in database (mock JDBC)
   * getAllEmployees(): Return list of employees
   * Use prepared statements
   * Handle SQL exceptions
5. **Servlet Communication (10 Marks)**  
   Implement:
   * Forward successful registration to confirmation page
   * Redirect invalid submissions back to form
   * Display all employees in JSP using request.setAttribute()
6. **Error Handling (5 Marks)**  
   Add:
   * Custom error page for database errors
   * Input validation messages
   * HTTP status code handling