

26 D TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2075 Bhadra

Exam.	Regular		
Level	BE	Full Marks	80
Programme	BCT	Pass Marks	32
Year / Part	IV / II	Time	3 hrs.

Subject: - Enterprise Application Design and Development (*Elective III*) (CT78504)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt **All** questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.

1. What are the current Enterprise Applications trends and Challenges? Define MVC Architecture with suitable example (10)
2. What are design patterns? Why do we need design patterns? Explain with examples about creational patterns and Behavioral patterns? (10)
3. What is Connection pooling and how it works? Explain the benefits of connection pooling with suitable example. (10)
4. Explain SOA concepts and design principles on the basis of current SOA adoption scenario. (10)
5. What are Java Servlets and why we use them? Explain major phases of JSP life cycle. (10)
6. What are the main components of EJBs. Explain the session and message driven EJBs. (10)
7. What is AJAX? Explain the AJAX frameworks with supporting example. (10)
8. Write Short Notes On: (Any Two) (5*2)
 - a. Structural Pattern
 - b. RIAD
 - c. Oracle vs DB2

Examination Control Division
2073 Magh

Exam.	New Back (2066 & Later Batch)		
Level	BE	Full Marks	80
Programme	BCT	Pass Marks	32
Year / Part	IV / II	Time	3 hrs.

Subject: - Enterprise Application Design and Development (*Elective III*)(CT78504)

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1. What are the characteristics that distinguish an enterprise application? Briefly discuss some challenges in such application development. [3+2]
2. What is application architecture? Briefly describe the MVC architecture. [2+3]
3. Explain what Inversion of Control is along with an example. Explain the Factory design pattern with suitable examples. [4+6]
4. Explain the significance of database connection pooling in enterprise applications. What are the advantages of having a data layer in application architecture? [4+3]
5. How can XML be useful in web-based applications? Explain the use of DTD in XML documents. [2+3]
6. Describe the structure of SOAP messages. Compare between RESTful and SOAP based web services. [4+3]
7. Describe what is Java EE and its significance for enterprise application development. Describe the Java EE platform architecture. [4+4]
8. Describe the working of a Servlet in java web application. Describe the significance of web application frameworks such as JSF. [4+4]
9. What are the benefits of using Enterprise Java Beans? Briefly describe the different types of session beans. [3+4]
10. Describe with an example how persistent objects can be created using JPA and annotations? What is Object-Relational Mapping? [3+2]
11. What is Web 2.0? Describe the main features that characterize Web 2.0 applications. [2+4]
12. What is AJAX and its significance in Web 2.0? Describe some general features provided by AJAX frameworks in rich web application development. [3+4]
