

PURBANCHAL UNIVERSITY

2023

B.E. (Computer)/Eighth Semester/Final

Time: 01:30 hrs.

Full Marks: 40 / Pass Marks: 16

BEG459CI: Engineering Professional Practice (New Course)

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks. Assume any suitable data wherever necessary.

Answer FOUR questions. Question No. (5) is compulsory. $4 \times 10 = 40$

1(a) Discuss the history of engineering practice in eastern society. 5

(b) Describe about Individual freedoms Vs societal goals with suitable examples. 5

2(a) What are the objectives of Nepal Engineering Council (NEC)? Explain. 5

(b) Explain about the role of engineering in development with examples. 5

3. Define Contract law. Explain the various sections of a contract document. 2+8

4(a) What do you mean by Intellectual Property Rights? Explain three principal types of Intellectual Property Rights. 2+3

(b) Describe liability and negligence. 2.5+2.5

5. Read the following case and answer the questions given below on your own words: 10

Radar detectors, also known as "Fuse busters" are simple but extremely sensitive radio receivers that are tuned to the wavelength of the police radar. When a car equipped with a detector first enters and radar field, a warning light flashes or a buzzer sounds, enabling the driver to slow down, if necessary, before the speed of the car can be calculated by the police equipment. The use of radar detectors is illegal in most states, but the manufacturing and marketing of the units have never been banned. Should companies make and sell radar detectors? Discuss.



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Time: 03:00 hrs.

Full Marks: 80 / Pass Marks: 32

BEG477CO: Cryptography (New Course)

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer EIGHT questions.

8×10=80

- 1(a) Explain the generic model of secure communication. 4
(b) What is modular arithmetic? Briefly explain the Euclidian algorithm with example. 2+4
- 2(a) Explain Shannon's theory of diffusion and confusion. 3
(b) Describe different modes of Block and Stream cipher. 7
3. Explain international data encryption algorithm. Mention its advantages and disadvantages. 8+2
4. Differentiate between Symmetric and Asymmetric key cryptography systems. Explain Diffie - Hellman algorithm for key distribution. 4+6
- 5(a) Explain how confidentiality can be maintained using public key cryptography. 4
(b) Explain with suitable diagram of working principle of digital signature. 6
6. Discuss about message authentication and also explain different techniques of message authentication. 2+8
- 7(a) Differentiate between MD-5 and SHA-1 Algorithm. 6
(b) Differentiate between MAC and Hash function.
- 8(a) Discuss integral domain and field with proper illustrations. 5
(b) Discuss RSA algorithm. 5
9. Write Short notes on any TWO: 5+5
(a) Kerberos (b) Hill Cipher (c) E-mail security

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Time: 03:00 hrs.

Full Marks: 80 / Pass Marks: 32

BEG476CO: Data Mining & Data Warehousing (New Course)

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer **EIGHT** questions.

8×10=80

1. What is data mining? Explain KDD process in detail. 3+7
- 2(a) Why there is the need to have a separate data warehouse? 3
(b) Describe data mining architecture process with illustrative figure in detail. 7
3. For the following given Transaction Dataset generate an association rule by using Apriori Algorithm with minimum support=2 and confidence = 75%. 10

TID	List of Item
T100	A, B, E
T200	B, D
T300	B, C
T400	A, B, D
T500	A, C
T600	B, C
T700	A, C
T800	A, B, C, E
T900	A, B, C

- 4(a) What is decision tree? State some of their advantages and disadvantages. 2+3
(b) What is multimedia data mining and text data mining? 5
- 5(a) List different types of OLAP Servers and explain any one in detail with diagram. 5
(b) Explain the necessity of cleaning data with appropriate example in ETL process. 5

Contd. ...

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2023

B.E. (Computer)/Eighth Semester/*Final*

Time: 03:00 hrs.

Full Marks: 80 / Pass Marks: 32

BEG478CO: Advanced Computer Architecture (New Course)

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer EIGHT questions.

8×10=80

- 1(a) What is computational model? Explain the Interpretation of the concept of a computational model. 5
- (b) Explain concept of computer architecture. 5
2. What do you mean by parallel processing? What are the architectural classification schemes of parallel processing? Explain. 3+7
3. What are array processors? Explain data routing in array processor.
4. Discuss the number of ways parallelism can be implemented in multiprocessor? Explain the latency hiding techniques in processor. 4+6
5. Discuss on loosely coupled and tightly coupled architecture in Distributed memory. Explain the cluster computing as an application of loosely coupled architecture. 4+6
6. What are the organizations that have been employed in the design of operating systems for multiprocessors? Explain. 10
7. What are the conditions of parallelism? How static connections of networks differ from dynamic connection of networks? Explain 4+6
8. What is Code Optimization Scheduling? Explain scalar optimization with its basic blocks. 4+6
9. Write short notes on any TWO: 2×5=10
 - (a) Von-Neumann computational model
 - (b) Object oriented model
 - (c) Local and global optimization

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Time: 03:00 hrs.

Full Marks: 80 /Pass Marks: 32

BEG475DP: Database Programming (Elective-II) (New Course)

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Answer EIGHT questions.

8×10=80

1. Define Procedure. How do you create Procedure in ORACLE Server explain with syntax and example? Write down the steps to create and executes procedures. Explain the advantages of Procedure in database.
2. ✓ Discuss the need of DBMS. List and explain the codd's Rules of RDBMS. 6
3. ✓ Define SQL. DML,, DDL and PL/SQL. What are the advantages of PL/SQL? Explain DLL and DML Function with syntax and Example. 6
4. ✓ Define ORACLE Transactions? Illustrate with syntax and example of COMMIT, ROLEBACK, and SAVEPOINT keywords used in database programming. 4
5. ✓ What is the roles and Responsibility of DBA? Explain the role of GRAND and REVOKE keywords with syntax and example. 5
6. ✓ Define forms and Reports in ORACLE. Explain the different types of Reports Generated in ORACLE Database Server.
7. ✓ Define Function and Trigger in ORACLE. How do you create Function and Trigger explain with syntax and example?. 3
8. Define View and Index with syntax and example. Write down the code and syntax to create Nested Table in ORACLE.
9. ✓ Define CURSOR. Explain different types of CURSOR with attributes. syntax and example. 3
10. ✓ Write short notes on any TWO: 2×16=80 6
 - (a) ✓ Locks used in ORACLE database
 - (b) ✓ Different types of join
 - (c) Subquery

