PURBANCHAL UNIVERSITY

2017

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.

1(a) Describe problem description model in detail with example. 5

(b) Explain the relationship between the concepts of computational model, programming language and architecture with a neat diagram. 5

2(a) Explain with neat diagram the classification of parallel computer architecture based on the Flynn's classification. 6

(b) Explain the vector and scalar processing with suitable example. 4

3(a) Discuss array processor along with an example of data routing. 5

(b) Describe in detail the systolic arrays and list their applications. 5

4. What do you mean by memory latency? How can you solve the latency problem? Describe the mechanism in detail. 2+8

5(a) Differentiate between loosely coupled and tightly coupled architecture. 5

(b) State and explain Bernstein's Condition in data dependency analysis. 5

6(a) List the models of parallel operating systems and explain them. 7

(b) Explain iteration space with example. 3

7(a) Define data dependence and its types with suitable examples. 6

(b) Differentiate between static and dynamic connection networks. 4

8(a) List out different parallel programming models. Explain any two models of parallel programming models in brief. 1+4

Contd. ...

(b) Describe three major phases of parallelizing compiler in parallel code generation with a diagram. 5

9. Write short notes on any TWO: 5+5
   (a) Trace Scheduling Compilation
   (b) Associative Memory Processors
   (c) Local and Global Optimizations
   (d) Role of Compiler

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PURBANCHAL UNIVERSITY
2018

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.

1. Define computational model. Explain the concept of Computer Architecture with interpretation and its descriptions. 10

2. Mention advantages and disadvantages of parallel processing. Explain principle of array processing. 3+7

3. Classify the pipelined processors according to its performance evaluation factor. Explain the system architecture of Cray type vector processor. 3+7

4. What is Associative memory processor? Explain the multithreaded architecture principles of multithreading and latency hiding in processor. 4+6

5(a) Explain tightly coupled architecture in context of distributed memory architecture with its merit and demerit. 6

(b) Discuss CM* in brief. 4

6. Explain separate supervisor configuration. Why do we perform categorized dependence test. 7+3

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: 5+5
   (a) Array processors
   (b) Role of Compilers
   (c) Object oriented model

PURBANCHAL UNIVERSITY
2016

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.

1. What is computational model? Explain the concepts of computer architecture with interpretation and description. 4+6
2. Explain about the basic principle of Pipelined Operation along with its timing diagram. Compare between scalar and vector pipeline. 5+5
3. With the help of a suitable example, describe about the different types of dependencies that can be seen between instructions. 10
4. What is the basic principle of multithreading execution model? Compare between tightly and loosely coupled microprocessor architecture with necessary architectural diagram. 3+7
5. What are the major three organizations that can be employed in the design of operating system for multiprocessors? Explain any two of themp. 2+8
6. List out the various levels of parallelism that can be obtained in context of programmability issues. Describe any two of them. Discuss about the role of Compilers. 2+5+3
7. What is an interconnection network? Distinguish between static and dynamic interconnection network. Explain about any three types of static interconnection network. 1+3+6
8. Define grain size and latency. Explain about message passing programming model. 4+6
9. What is vectorization and Parallelization? What are the various methods of vectorization? Explain any two methods with a suitable example 3+2+5

PURBANCHAL UNIVERSITY

2015

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.

1. What is computational model? Explain the concepts of computational model with its level of abstraction in brief. 2+8

2(a) Explain in detail classification of parallel computer architecture based on the Flynn's classification. 7

(b) Explain the principle of pipelining with suitable example. 3

3(a) Explain vector processor concept with example. 4

(b) Discuss data routing in array processor. 6

4. Explain different Latency hiding techniques used in multithreading architecture. 5+5

5. Explain cluster computing, with an example. 3+7

6(a) State and explain Bernstein's Condition in data dependency analysis. 5

(b) Explain any two dynamic connection networks. 2.5+2.5

7(a) Explain Master-slave configuration model and Separate supervisor configuration model of parallel operating system. 6

(b) Explain Local and Global optimizations. 4

8. List different parallel programming Models and explain any three of them. 1+9

9. Write short notes on any TWO: 5+5

(a) Data dependency in programs
(b) Grain Size and Latency
(c) Static Connection Networks
(d) Cross bar switch

PURBANCHAL UNIVERSITY

2015

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

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BEG478CO: Advanced Computer Architecture *(New Course)*

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Answer EIGHT questions.

1. What is computational model? Explain the concepts of computational model with its level of abstraction in brief. 2+8

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3(a) Explain vector processor concept with example.

(b) Discuss data routing in array processor.

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(b) Grain Size and Latency
(c) Static Connection Networks
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PURBANCHAL UNIVERSITY
2017

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

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 do you mean by data mining? Write KDD process in details with example.
2. Explain enterprise data warehouse architecture. What are OLAP operations in multi-dimensional model?
3. Explain data extraction, transportation and transformation in data ware house technology.
4. Give an illustrated view on Fact Table and Fact Table Granularity.
5. Explain APriori Algorithm with example.
6. What is multimedia data mining? Write architecture for multimedia data mining.
7. What is data ware housing? Discuss the use and benefits of data ware housing.
8. What is Clustering? Explain K-means methods with example.
9. Describe the importance of data mining in marketing and E-commerce.
10. Write short note any TWO: 5+5
    (a) Decision tree
    (b) Problem in data mining
    (c) Application of data mining

PURBANCHAL UNIVERSITY
2017

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.

1(a) As an engineer, describe how can you contribute to the society? 5

(b) Describe a set of professional morals and professional conducts of all registered engineers. 5

2(a) What are the job descriptions of an engineer working in the public sector? 5

(b) When will the contract become voidable contract? What are void Contracts? 2+3

3(a) What is a Tort liability? Give a practical example of the tort liability that can be faced by an engineer. 1+4

(b) Highlight the condition of work and compensation with reference to labor Act 2048 of Government of Nepal. 5

4(a) Explain the main differences between Engineering Practice in Asian Countries and Engineering practice in Western Europe. 5

(b) What do you mean by Tender? Describe Bid Security and Performance Bank Guarantee. 1+4

5. Write short notes on any FOUR: 4×2.5=10

(a) Copy rights & Patent rights

(b) Individual Freedom VS Societal Goal

(c) Scope of engineering profession in private sector

(d) Corporate Social Responsibility

(e) Joint Venture Company

6(a) What is the uses of String and StringBuilder? Differentiate between Boxing and Unboxing. 6

(b) How can web page be made interactive? Explain the event with an example. 1+3

7(a) What is control? Discuss Custom control in detail. 6

(b) Differentiate between Menu and Tab. 4

8(a) What the different types Validation of Control in ASP.net. Discuss with example. 6

(b) Discuss the concept on CLR in .Net with an example. 4

9. Write short notes any FOU: 4×2.5=10

(a) DataGridView
(b) Procedure and Function
(c) GDI+ Features in .net
(d) Models of Interface
(e) Error handling

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PURBANCHAL UNIVERSITY

2018

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. 4×10=40

1. Define Engineering. What are the key roles of engineering in developmental activities? What are positive and negative impacts of engineering in rural and urban societies? 1+4+5

2(a) Why do engineers need ethics? Explain in brief liability tort and negligence with the help of suitable examples. 5

(b) Explain in brief the preparation of Tender document and Tendering process. 5

3(a) What are the intellectual property rights? Explain in brief with examples. 5

(b) Discuss the role of engineering in the development. 5

4. Define an engineering profession. List the fundamental code of ethics that should be followed by the engineers. Discuss individual freedoms Vs societal goals. 2+5+3

5. On August 2, 2017 Police in Kathmandu arrested Nirab Gyawali, son of CPN-UML Bharatpur mayoral candidate Devi Gyawali, on the charge of posting a libel against CPN Maoist Centre leader Renu Dahal on his Facebook. The youth was arrested two days before ward 19 of the city in Chitwan district was going for second round of voting which Dahal won with a narrow margin of around 200 votes. Nirab's father was fighting against Dahal, daughter of CPN-Maoist Centre Chairman Pushpa Kamal Dahal, to win the top position of city. Police said Nirab has been

Contd. ...

PURBANCHAL UNIVERSITY
2018

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

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. What is cryptography? Briefly explain the generic model of secure communication and OSI security architecture. 2+4+4

2. What is stagenography? How it works? Explain the Caesar cipher and Hill cipher with examples. 2+4+4

3(a) What is modular arithmetic? Briefly explain the Euclidian algorithm with example. 2+3

(b) Discuss group and integral domain with suitable examples. 5

4. What is Shannon's theory of diffusion and confusion. Explain the DES with suitable diagram. 2+8

5. Discuss significance of hash function. Explain RSA algorithm and use it to encrypt and decrypt the message "ATTACK". 3+7

6. What is digital signature? Explain with suitable diagram of working principle of digital signature. 2+8

7. Briefly explain the IPsec and SET. 5+5

8. Explain how Diffie-Hellman algorithm for key distribution works. Differentiate between active and passive attack. 7+3

9. Write short notes on any TWO: 5+5
   (a) MAC
   (b) AES
   (c) Public-key cryptography

detained on the basis of a complaint filed by Anil Kumar Pathak, Renu's husband, against him. Nirab had allegedly posted a defamatory status against Renu on his Facebook after some Maoist cadres tore ballot papers in Bharatpur in May. Gyawali family, however, says Nirab has already realized his mistake and apologized to Renu after public criticism. The Kathmandu District Court released Nirab the next day on a bail of Rs 25,000 on the case of cybercrime lodged by the police. Nirab was released on bail as he himself did not make any postings and had just commented on a status posted by another user." 10

(a) Why do you think arrest was made after more than a month and do you think it had a political motive? In other words, do you think the above case impacted the election result in any way? If yes, how?

(b) What lesson the above story gives regarding responsible usage of social media?

(c) What extent of Cybercrime awareness the above story shows among Nepalese citizens and institutions? How?

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1105

8. Explain about text mining. Discuss about complex data. 5+5

9. Write short note any TWO: 5+5
   (a) Types of OLAP server
   (b) Integration of data mining tool with database
   (c) K-means method

PURBANCHAL UNIVERSITY
2018

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

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? Discuss application and benefits of data mining in detail. 2+4+4

2. Explain the steps involved in the KDD. Differentiate between database and data warehousing. 5+5

3. Define data mart and multidimensional data model. Explain the ETL process in data warehousing. 4+6

4. Define logical design in data warehousing. Explain different operation in OLAP. 5+5

5. Explain data warehousing with its architecture in detail. 10

6. Define about types of hierarchical clustering in Data Mining. Generate an association rule by using Apriori Algorithm with minimum support 2. 2+8

TID	List of item
TI	11,12,13
T2	12,14
T3	12,13
T4	11,12,14.
T5	11,13
T6	12,13
T7	11,13
T8	11,12,13,15
T9	11,12,13

7. Explain market basket analysis with proper example. Define about genetic algorithm. 5+5

Contd. ...

PURBANCHAL UNIVERSITY

2018

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

Time: 03:00 hrs. Full Marks: 80 /Pass Marks: 32

BEG475VB: Visual Basic .Net, C# (Elective-II) *(New Course)*

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

All questions carry equal marks. The marks allotted for each sub-question is specified along its side.

Answer EIGHT questions. **8×10=80**

1(a) What are the different functions of DataSet and DataReader? Discuss with example. 5

(b) What is the function of ContextMenuStrip? Discuss with example. 5

2(a) Write a program using c#.net showing the example of multiple Inheritance. 5

(b) Explain state, behavior and identity with an example. 5

3(a) Explain Master page concept of ASP.Net. What are the advantages on ASP.Net over Traditional ASP? 6

(b) Discuss ADO.Net with comparison of ADO. 4

4. Create a Windows form to give the inputs for the following and write the .Net code for Insert, Update, Delete and Search. 10

(i) Student Id
(ii) Student Name.
(iii) Address
(iv) College Fee
(v) Program

5(a) What are the different properties of TextBox? Discuss any six properties. 5

(b) Why we need to use ListBox? Discuss different properties of ListBox with example. 5

Contd. ...

PURBANCHAL UNIVERSITY

2015

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

Time: 03:00 h... Full Marks: 80 /Pass Marks: 32

BEG477CO: ...yptography *(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 are different types of security attack? Explain OSI Security Architecture.
2. What are different types of Cryptographic system? Differentiate between confusion and diffusion process.
3. Explain 2 different classical cipher techniques. Briefly describe on Vigenere cipher.
4. Describe different modes of Block and Stream Ciphers.
5. Explain any one of the block symmetric ciphers technique. Also Compare DES, AES and IDEA.
6. What is public key cryptography? Explain RSA algorithm with an example.
7. Why do we need message security? Explain different techniques of authentication.
8. ...ifferentiate between group and ring. Explain modular ...
9. ... message digest? How Kerberos does provide central ... services?
10. Write short notes on any TWO:
    (a) Secure Electronic Transaction
    (b) Modes of IPSec
    (c) PGP
    (d) Secure Electronic Transaction (SET)

PURBANCHAL UNIVERSITY

2015

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

Time: 03:00 hrs. Full Marks: 80 /Pass Marks: 32

BEG475VB: VB.Net, C# (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.

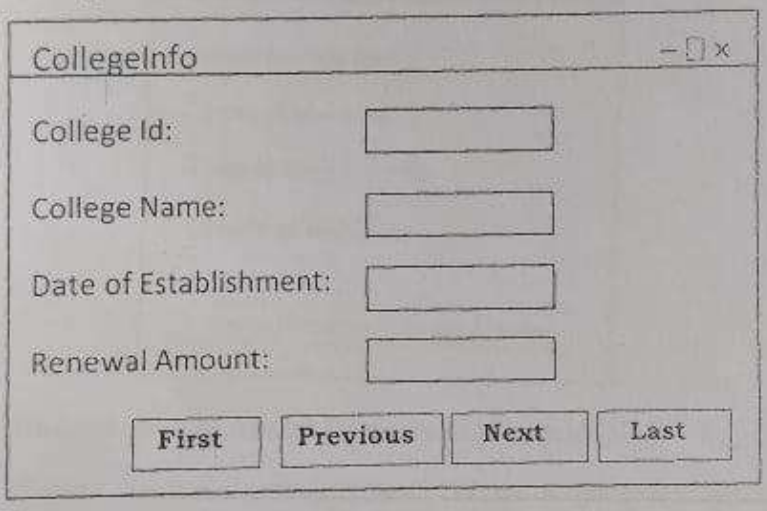
1(a) What are the different features of Net Technology? Discuss. 5

(b) What is the function of DataReader? Explain in detail 5

2(a) Differentiate between RadioButton and CheckBox. Discuss with example. 6

(b) Why SDI and MIDI is used in Net Technology? 4

3(a) Write the .Net Code for the following Data Nevigation using DataAdapter and Dataset. 8



(b) Why CTS is used in Visual Studio .Net? 2

4(a) What is the function of Timer? Discuss different properties of Timer. 5

(b) Why ListBox is used? Discuss with example. 5

Contd. ...

PURBANCHAL UNIVERSITY
2016

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

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) Describe Generic Model of Secure Communication. 4

(b) Describe Hill Cipher algorithm with an example 6

2(a) Describe the following terms: 6
(i) Modular Arithmetic
(ii) Residue Classes
(iii) Euclidean Algorithm

(b) Differentiate symmetric and asymmetric cryptographic systems. 4

3. Discuss diffusion and confusion. Explain Fistel Cipher Structure. 3+7

4. Explain Advanced Encryption Standard (AES). Mention its merits and demerits. 8+2

5. Explain how confidentiality and authentication are achieved using public key cryptography. 10

6. Describe Diffie-Hellman Algorithm for key exchange. 10

7. Discuss types of attack. Explain working principle of digital signature. 4+6

8. Why do we need central authentication scheme? Describe Kerberos authentication. 3+7

9. Explain PGP and Secure Electronic Transaction. 5+5

10. Write short notes on: 5+5
(a) Hash function
(b) Network security

KHWOPA ENGINEERING COLLEGE
Eighth Semester Assessment - 2016

LEVEL:- B. E. (Computer)/ VIII
SUBJECT:- BEG476CO Data Mining and Data Warehousing

FULL MARKS:- 80
TIME:- 03:00 hrs. 2073/05/20 PASS MARKS:- 32

Candidates are required to give their answers in their own words as far as practicable.
Figure in the margin indicates full marks.

Attempt any eight Questions.

Q1. What are the applications of data warehousing? Explain principle of data warehousing architecture. [10]

Q2. Why preprocessing is so important? Explain the different stages of KDD process. [10]

Q3. What is OLAP server? What are the operations performed on OLAP? Explain the different stages of ROLAP architecture. [10]

Q4. Briefly explain ETL process in data warehousing. [10]

Q5. What is cluster analysis? Briefly explain with example the partitioning method. [10]

Q6. What are association rules in data mining? How Apriori algorithm works? Differentiate between it and Market Basket analysis. [10]

Q7. What is decision tree? Briefly explain with suitable example. State their advantages and disadvantages. [10]

Q8. What is back propagation in neural networks? How it can be used in data mining? Also explain the application of genetic algorithm. [10]

Q9. Write short notes on **any two** [5×2=10]
a) Mining complex types of data(Multimedia, web).
b) Importance of data mining in different kind of business.
c) Data mining in distributed database system.

The End

PURBANCHAL UNIVERSITY

2016

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

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.

1. What is data mining? Describe knowledge discovery process with a suitable diagram? 2+8

2. Briefly explain about the general architecture of the data warehouse in detail. Differentiate between Online Analytical Processing (OLAP) and Online Transaction Processing (OLTP). 5+5

3. Why does an organization need online analytical processing (OLAP)? Explain different operations associated with OLAP. 3+7

4. Explain the Genetic Algorithm in data mining. 10

5. What is clustering? Explain Hierarchical clustering in detail with suitable example. 10

6(a) Discuss the importance of multidimensional data models in the design of data warehouse. 3

(b) What do you mean by fact tables and indexes? Discuss star schema. 3+4

7. What do you mean by association analysis? Explain with the help of any algorithm. 10

8. Explain the use of data mining in telecommunication, banking and market research. 10

9. Write short note any TWO: 5+5
   (a) Web-Mining
   (b) OLAP operation
   (c) Issues and challenges of data mining

PURBANCHAL UNIVERSITY
2015

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

Full Marks: 80 /Pass Marks: 32

Time: 03:00 hrs.

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.

1. Define data mining with its advantage and problem in data mining? 2+3+5
2. Explain the basic concept of data warehouse. Differentiate between star and snowflake schema in data warehouse. 5+5
3. Why data extraction is required in data warehousing? Explain the ETL process in data warehousing. 4+6
4. What are the different types of OLAP server? Explain different operation in OLAP. 5+5
5. What are the different techniques in data mining? Explain them briefly 10
6. Identify the candidate and large item sets of the following transaction table. Use Apriori algorithm with minimum support 2. 10

TID	Items
10	A, C, D
20	B, C, E
30	A, B, C, E
40	B, E

7. Define clustering. Explain different methods of clustering. 10
8. Define web mining. 5+5
9. Write short note any TWO:
   (a) Data warehouse architecture
   (b) KDD
   (c) Decision tree

PURBANCHAL UNIVERSITY
2016

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. Q. (5) is compulsory.

1. Who were the first Engineers? Give the brief history of engineering practices in western societies. 2+8

2. Write down the main objectives of Nepal Engineering Council (NEC). Give the NEC code of ethics that a registered engineer in Nepal needs to follow. 3+7

3. Define contract according to the Contract Law Act of Nepal 2023. Explain briefly the various elements of a contract. 2+8

4(a) What do you mean by the Intellectual Property Right? Explain three principal types of intellectual property rights: patents, copyrights and trademarks? 6

(b) Write about role of engineering development. 4

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

An engineer, hired by a software company, believes that a company's new software design is safe under existing standards. However the new software may not meet the new standards that he knows about to be releases - standards that performing more tests could cost both the company and the public significantly, Issues of conflicting obligations to the company and the general public also arise. Should the company meet the new standards? Discuss

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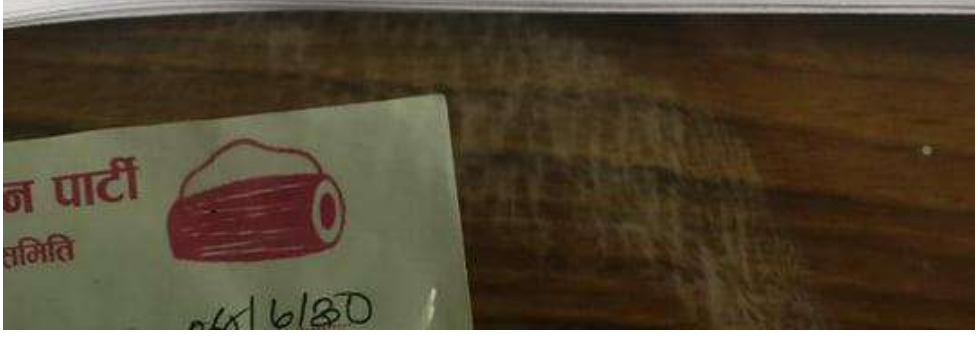

PURBANCHAL UNIVERSITY
2016

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

Time: 03:00 hrs. Full Marks: 80 /Pass Marks: 32

BEG476CO: Data Mining & Data Warehousing *(New Course)*

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The figures in the margin indicate full marks.

Answer EIGHT questions.

1. What is data mining? Describe knowledge discovery process with a suitable diagram? 2+8

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6(a) Discuss the importance of multidimensional data models in the design of data warehouse. 3

(b) What do you mean by fact tables and indexes? Discuss star schema. 3+4

7. What do you mean by association analysis? Explain with the help of any algorithm. 10

8. Explain the use of data mining in telecommunication, banking and market research. 10

9. Write short note any TWO: 5+5
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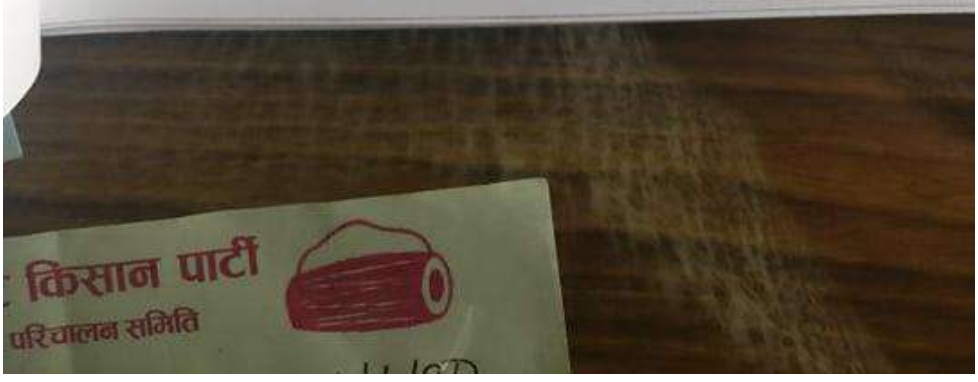
   (b) OLAP operation
   (c) Issues and challenges of data mining



KHWOPA ENGINEERING COLLEGE
Eighth Semester Assessment - 2016

LEVEL:- B. E. (Computer)/ VIII
SUBJECT:- BEG476CO Data Mining and Data Warehousing
FULL MARKS:- 80
TIME:- 03:00 hrs. 2073/05/20 PASS MARKS:- 32

Candidates are required to give their answers in their own words as far as practicable.
Figure in the margin indicates full marks.

Attempt any eight Questions.

Q1. What are the applications of data warehousing? Explain principle of data warehousing architecture. [10]

Q2. Why preprocessing is so important? Explain the different stages of KDD process. [10]

Q3. What is OLAP server? What are the operations performed on OLAP? Explain the different stages of ROLAP architecture. [10]

Q4. Briefly explain ETL process in data warehousing. [10]

Q5. What is cluster analysis? Briefly explain with example the partitioning method. [10]

Q6. What are association rules in data mining? How Apriori algorithm works? Differentiate between it and Market Basket analysis. [10]

Q7. What is decision tree? Briefly explain with suitable example. State their advantages and disadvantages. [10]

Q8. What is back propagation in neural networks? How it can be used in data mining? Also explain the application of genetic algorithm. [10]

Q9. Write short notes on **any two** [5×2=10]
a) Mining complex types of data(Multimedia, web).
b) Importance of data mining in different kind of business.
c) Data mining in distributed database system.

The End

5(a) What is the difference between ADO and ADO.Net? 5

(b) Discuss the IDE of .Net Technology. 5

6(a) Why Provider is used in .Net? Is there any Technology to connect the Database without using Provider? 6

(b) Discuss Boxing and UnBoxing in detail. 4

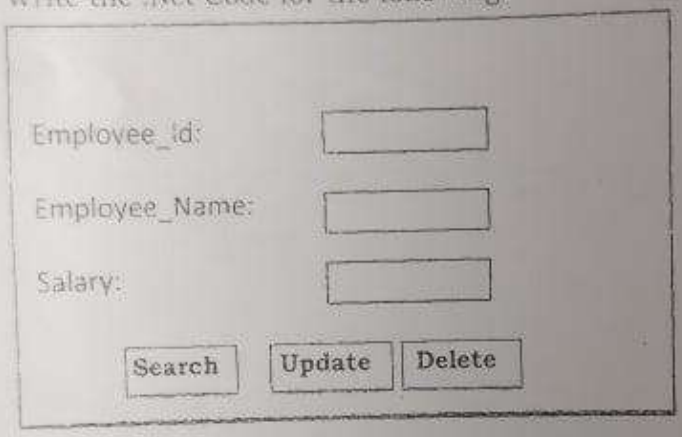
7(a) Discuss the .Net Frame work in detail. 5

(b) WAP using C#.Net showing the example of Multiple inheritance. 5

8(a) Why Menu and ContextMenu is used? Differentiate them. 6

(b) List different properties of Basic Input control(TextBox) and explain any four. 4

9(a) Write the .Net Code for the following. 5



(b) Use different Client side Validation of Control for the following details. 5

(i) Employee_Id : Use RequiredField Validator
(ii) Employee_Name : Use RequiredField Validator
(iii) Salary : RangeValidator

10. Write short not on any FOUR: 4×2.5=10

(a) Form Inheritance
(b) String and String Builder
(c) Common Language Runtime
(d) Error Handling
(e) DataAdapter

PURBANCHAL UNIVERSITY
2016

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

Time: 03:00 hrs. Full Marks: 80 /Pass Marks: 32

BEG475VB: VB.Net, C# (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.

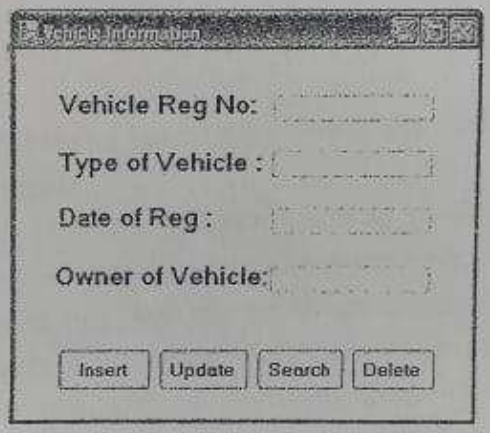
1(a) What are the different function of CLR? Discuss. 5

(b) Why the use of .net Technology is growing day by day? Discuss. 5

2(a) Differentiate between MDI and SDI. 6

(b) Write the c#.net code showing the example of multiple Inheritance. 4

3(a) Write the .Net Code for the following purpose 8



(b) Why RadioButon is used? Give a simple example. 2

4(a) Why Timer control is important? Write a program showing the example of Timer. 6

(b) Differentiate between Boxing and Unboxing. 4

5(a) Why the ListBox control is used? Discuss different properties of ListBox control. 5

Contd. ...

(b) What is the use of ADO.Net? How is it different from ADO? 5

6(a) Is it possible to establish the connection with database without provider? If yes then explain the condition where the provider is not used? 5

(b) Why .Net Frame work is needed? Explain in detail. 5

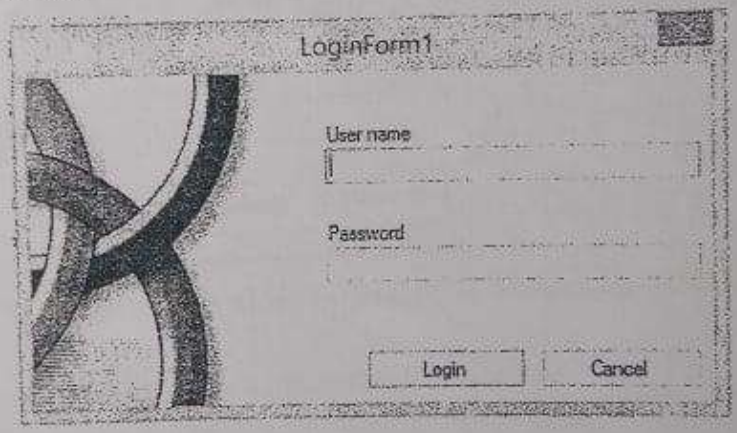
7(a) Why DataGridView is used? Discuss with example. 5

(b) Differentiate between DataAdapter and DataReader with an example. 5

8(a) What are the different types of client side validation of control supported by ASP.net? Discuss any two with example. 6

(b) List different properties of Timer Control and explain with example. 4

9(a) Write the .Net Code for the following. Verify that password must not exceed length 6 and it must consist of characters and at least a number. 6



(b) Differentiate between String and String Builder. 4

10. Write short not on any FOUR: 4×2.5=10

(a) ContextMenuStrip
(b) DialogBox
(c) CTS
(d) DataSet
(e) Events

PURBANCHAL UNIVERSITY
2015

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

Time: 03:00 hrs. Full Marks: 80 /Pass Marks: 3

BEG477CO: Cryptography *(New Course)*

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

The figures in the margin indicate full marks.

Answer EIGHT questions. 8×10=

1. What are different types of security attack? Explain OSI Secur Architecture.
2. What are different types of Cryptographic system? Differentia between confusion and diffusion process.
3. Explain 2 different classical cipher techniques. Briefly descri on fistel cipher.
4. Describe different modes of Block and Stream Ciphers.
5. Explain any one of the block symmetric ciphers technique. Al Compare DES, AES and IDEA.
6. What is public key cryptography? Explain RSA algorithm with example.
7. Why do we need message security? Explain different techniqu of authentication.
8. Differentiate between group and ring. Explain modul arithmetic.
9. What is message digest? How Kerberos does provide cent authentication services?
10. Write short notes on any TWO:
    (a) Secute Electronic Transaction
    (b) Modes of IPSec
    (c) PGP
    (d) Secure Electronic Transaction (SET)

PURBANCHAL UNIVERSITY

2015

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. Q. (5) is compulsory.

1. How were the first engineers and how were they develop? 10

2. What are duties and responsibilities of an engineer? Explain tort liability. 10

3. What are the process for preparing tender document and tender process? 10

4. What are the roles of engineers in the development of the country? 10

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

   The situation of engineers leaving public employ and then working in the same area in the private sector is a delicate issue. The engineer has had access to government knowledge that the private client may desire. This case raises a question about the ethical permissibility of such employment. Should engineers be employed in the same area in private sectors? Discuss.

PURBANCHAL UNIVERSITY

2019

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. (4) is compulsory. 4×10=40

1(a) Define Profession/Professionalism and describe feature of professionals with Suitable examples. 5

(b) Describe general job description of engineers in public and private sectors. 5

2(a) Discuss Tort liability, its elements, types of negligence and liability in detail. 5

(b) Discuss Moral and ethics and describe code of ethics for engineers developed by Nepal Engineering Council (NEC). 5

3(a) Describe Intellectual Property right, explain Patent, Copy right and Trade mark in detail. 5

(b) Describe tender process in detail. 5

4. Because of population from different sources, the transport service in Kathmandu has become very tedious. Passengers have to wait for long. But as the government allowed running microbus on different routs because of road widths, people's participation and People's facilities, people find some kind of support, but because of numbers of microbus increases, the roads, the environment and the thieves spread like a plague. The government could provide public buses that can carry a lot more number of people at a time in single shift loss bus runs and thereby lessening bus fumes. Discuss where the increase of microbus was right decision of the government instead of Public buses? 10

PURBANCHAL UNIVERSITY
2019

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

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(a) Why data cleaning and data transformation is required in KDD? Explain. 5

(b) Discuss data enrichment with a proper illustration. 5

2(a) Explain need of data warehouse. 4

(b) Mention characteristics and application of data warehousing. 3+3

3(a) Differentiate between logical and physical design. 3

(b) Why multidimensional data model is used in data warehouse? Describe fact table. 3+4

4(a) Explain how transformation, loading, and refreshing are executed in data warehouse. 10

5. Differentiate between OLTP and OLAP systems. Describe OLAP architecture. 3+7

6. What is clustering? Explain K-means method with an example. 3+7

7. Describe web usage mining and web structure mining. 5+5

8. Discuss different aspects of security and privacy in data ming. 10

9. Write short note any TWO: 5+5

(a) Genetic algorithm

(b) Linear and nonlinear regression.

(c) Parallelism in data ware housing.

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PURBANCHAL UNIVERSITY
2019

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

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. Explain cryptography with its conventional encryption model. Also discuss OSI security architecture in brief. 5+5
2. Describe working mechanism of mono-alphabetic cipher. Explain integral Domain and field with proper example. 5+5
3. Differentiate between stream ciper and block cipher. How does binary block substitution work? Discuss importance of modular arithmetic. 3+4+3
4. Differentiate between asymmetric and symmetric cryptrographic system. Using RSA algorithm, encrypt the word "retaliate" and then decrypt it. 3+7
5. What is Shannon's theory of diffusion and confusion? Explain working mechanism of Fistel cipher. 3+7
6. Mention drawbacks of DES. Describe how IDEA works. 2+8
7. What do you mean by data confidentiality? Explain MAC. Write down applications of hash functions. 2+5+3
8. What are the types of authentication services? Explain centralized authentication schemes in detail. 2+8
9. Write short notes on any TWO: 5+5
   (a) Security Model
   (b) Secure Electronic Transaction (SET)
   (c) Staganography

PURBANCHAL UNIVERSITY
2019

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.

1. Define computational model. Explain the concept of Computer Architecture with interpretation and its descriptions. 3+7
2. What do you mean by parallel processing? Explain the types and levels of parallelism in brief. 3+7
3. (a) Discuss data routing in array processor. 4
   (b) What is vector processing? Describe cray type rector processor. 1+5
4. Explain the principle of multithreading architecture. 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 programmability issues? Characterize the parallelism levels and their implementations issues form the view point of programmer and compiler developer. 5+5
7. What are the conditions of parallelism? How static connections of networks differ from dynamic connection of networks? Explain. 4+6
8. (a) How do you optimize compilers for parallelism? Explain. 5
   (b) What is iteration space? Describe trace scheduling compilation. 1+4
9. Write short notes on any TWO: 2×5=10
   (a) Hadoop
   (b) Dependence analysis
   (c) Data parallel model

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PURBANCHAL UNIVERSITY
2019

(Computer) / Eighth Semester / *Final*

ıe: 03:00 hrs. Full Marks: 80 / Pass Marks: 32

G475VB: Visual Basic .Net, C# (Elective-II) *(New Course)*

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

questions carry equal marks. The marks allotted for each sub-question specified along its side.

ıswer EIGHT questions. **8×10=80**

Difference between VB and VB - Net? What is the role of encapsulation? Explain with example. 5+5

What is CLR? Explain the Exception handling mechanism in C# with an example. 4+6

What is field validation? Explain different types of field validation control with example. 3+7

Explain Dataset, Data Adapter and Data Reader with example. 10

What is event? Explain different types of event with example. 2+8

Describe boxing and unboxing with example. How multi level inheritance is achieved in C#? Explain with suitable example. 5+5

(a) Explain Data Gridview and Dataview with suitable example. 5

(b) List different features of OOP? Explain polymorphism with example. 2+3

Explain Data Access Mechanism in VB. Net. Write sample program to insert, update, delete and search the data from the databox. 3+7

What are the different properties of Text Box? Explain any Ten properties of Text Box. Differ entiate between SDI and MPI. 2+5+3

10. Write short note on any FOUR: 4×2.5=10

(a) String and string builder (b) State and Behaviour

(c) Delegate in VB. Net (d) Byval and ByRef.

(e) Procedure and function