# KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY
## Hiranya Chandra Bhuyan School of Science and Technology

HOME ASSIGNMENT FOR
## MASTER OF COMPUTER APPLICATIONS (MCA)
FOURTH SEMESTER, 2019

N.B. The learners will have to collect receipt after submitting the assignment with the signature and seal of the collector of study centre and will have to keep with him/her till the declaration of result.

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## Receipt

Received the assignment from Mr/Ms …………………………………………….Enrollment number ……………………of **4th  Semester, 2019 MCA** on ………………2019.


Date:                                                         Signature of collector with seal

## COURSE: DATABASE MANAGEMENT SYSTEMS
## (MCA-13)

**Total Marks: 50**

[Assignments *are required to be written in your own language. Copying in to from the learning materials will carry less score*]

**A. Answer the following three questions:**                                    **2 X 3 = 6**

Q1. What is the purpose of database systems?

Q2. What is data encryption?

Q3. What is functional dependency? What are its types?

**B. Answer the following three questions:**                                    **4 X 3 = 12**

Q1. Explain the responsibilities of DBA.

Q2. What is Normalization? Why normalization is required?

Q3. Explain following term with suitable examples

(i) Primary Key   (ii) Candidate key   (iii) Super key   (iv) Foreign key

**C. Answer the following two questions:**                                    **6 X 2 = 12**

Q1. What do you mean by entity integrity and referential integrity constraints? Explain with suitable example.

Q2. What is data independence? Explain the difference between physical and logical data independence with suitable example.

**D. Answer the following two questions:**                                    **10 X 2 = 20**

Q1. Consider following schema and write SQL for given statements:
- student( rollno, name, branch)
- exam(rollno, subject_code, obtained_marks , paper_code)

• papers(paper_code, paper_satter_name, university)

(i)  Display name of student who got first class in subject '130703'.

(ii)  Display name of all student with their total mark.

(iii) Display list number of student in each university.

(iv) Display list of student who has not given any exam.

Q2.What is transaction? Write some examples of transactions. Explain the concept of transaction with the help of COMMIT and ROLLBACK operations.

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## COURSE: MANAGEMENT INFORMATION SYSTEMS
## (MCA-14)

**Total Marks: 50**

[Assignments *are required to be written in your own language. Copying in toto from the learning materials will carry less score*]

**A. Answer the following three questions:**                    **2 X 3 = 6**

Q1.  What are the components of an information system?

Q2.  Why is testing important?

Q3.  Why is customer relationship management used in business organizations?

**B. Answer the following three questions:**                    **4 X 3 = 12**

Q1.  Write short notes on the following:

   (i)  Teleconferencing

   (ii)  Video conferencing

Q2.  How is a new Internet business planned?

Q3.  Write a short note on the subsystems of an information system.

**C. Answer the following two questions:**                    **6 X 2 = 12**

Q1.  Why do we study organizational systems in order to design MIS?

Q2.  Briefly describe the development process of the information system.

**D. Answer the following two questions:**                    **10 X 2 = 20**

Q1.  Explain the uses of intranet as well as the applications of extranet.

Q2.  Discuss the concept of planning and implementing changes in an organization.

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## COURSE: DATA COMMUNICATION AND COMPUTER NETWORKS
## (MCA-15)

**Total Marks: 50**

[Assignments *are required to be written in your own language. Copying in to from the learning materials will carry less score*]

**A. Answer the following three questions:**                    **2 X 3 = 6**

Q1.   What is the roll of protocol in data communication?

Q2.   Why is IP address required?

Q3.   What is phase modulation?

**B. Answer the following three questions:**                    **4 X 3 = 12**

Q1.   What are the responsibilities of the transport layer in the OSI model?

Q2.   Explain briefly the difference between virtual circuits and datagram subnets.

Q3.   Briefly explain the applications of optical fiber.

**C. Answer the following two questions:**                    **6 X 2 = 12**

Q1.   Write a short note on TCP congestion control.

Q2.   Briefly explain 802.3 MAC frame format.

**D. Answer the following two questions:**                    **10 X 2 = 20**

Q1.   Discuss about link state routing algorithm detail.

Q2.   Describe the frame format for IEEE 802.3 MAC frame. What are the salient features of FDDI network?

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**Total Marks: 50**

[Assignments *are required to be written in your own language. Copying in toto from the learning materials will carry less score*]

**A. Answer the following three questions:**          **2 X 3 = 6**

    Q1.   What is a file management system?

    Q2.   What is the purpose of DLL?

    Q3.   Why is syntax analysis performed?

**B. Answer the following three questions:**          **4 X 3 = 12**

    Q1.   Briefly explain the design of an assembler.

    Q2.   What is syntax tree? How is it created?

    Q3.   Briefly discuss the importance of LL(1) and LR parser.

**C. Answer the following two questions:**          **6 X 2 = 12**

    Q1.   Explain the main functions of a linker.

    Q2.   Distinguish between one pass and two pass assembler.

**D. Answer the following two questions:**          **10 X 2 = 20**

    Q1.  With the help of an example explain the difference between Type-0 and Type-2 grammar.

    Q2.  Write the procedure to convert DFAs to regular expression.

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