(FOR BACK CANDIDATES)

KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY

Hiranya Kumar Bhuyan School of Science and Technology

HOME ASSIGNMENT FOR

MASTER OF COMPUTER APPLICATION (MCA)

FIFTH SEMESTER, 2019

COURSE: SOFTWARE ENGINEERING

(MCA-17)

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 project scheduling?

   Q2. What is the aim of impact analysis?

   Q3. What is the basic concept of cohesion?

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

   Q1. On what factors does preliminary investigation depends?

   Q2. What are domain requirements?

   Q3. What is the structure of a Software Requirement Specification (SRS)?

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

   Q1. Describe the various key challenges in Software engineering with examples.

   Q2. How do we develop a decision table? Explain.

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

   Q1. Discuss spiral model with it relative advantages.

   Q2. What is cost estimation? Explain any two cost estimation techniques.

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(MCA-18)

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. Define time and space complexity. What is time-space tradeoff?

Q2. Define P, NP, NP-Hard and NP-Complete classes.

Q3. How is quicksort different from randomized quicksort?

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

Q1. How is greedy method used to solve activity scheduling problem? Explain using example.

Q2. Find the optimal solution for the knapsack problem using greedy strategy where the total weight for knapsack is c=6. The number of items is n= 4 and weight and the profit for these items are shown in the following table.

Item	1	2	3	4
Weight (wti)	3	4	2	1
Profit (pi)	12	4	6	5

Q3. Find the number 45 using binary search in the following array A.

A = [7, 12, 34, 45, 51, 67, 83, 98, 124]

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

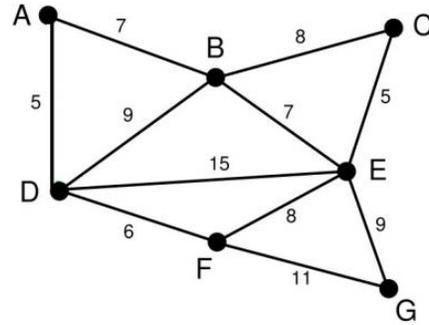Q1. Write the output after first passes using the following algorithm for the array B:

i) radix sort

ii) quick sort

iii) bucket sort

B = [978, 189, 267, 53, 332, 20, 560, 891, 7, 100]

Q2. Find the minimum spanning tree of the graph below using Kruskal's algorithm:

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

Q1. Give the four steps used in solving any problem using backtracking. Discuss the 8-queen's problem.

Q2. Find the optimum solution for the knapsack problem where total capacity for the knapsack is 6. The weight and profit for the items are as follows:

Item:	1	2	3	4	5	6
Weight:	4	8	2	6	8	10
Profit:	8	4	6	6	4	5

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(MCA-19)

Total Marks: 50

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

Q. 1: Answer the following questions- **2 X 3 = 6**

a) Define ledger.
b) Define journal.
c) Define marginal cost.

Q. 2: Answer the following questions- **4 X 3 = 12**

a) Define current ratio.
b) Define gross profit.
c) Define cost.
d) What is meant by budgetary control?

Q. 3: Answer the following questions- **6 X 2 = 12**

a) Enter the transactions in journal book-
   Purchase goods for Rs. 15, 000.
   Goods sold for Rs. 20, 000.
   Salary paid Rs. 15, 000.
   Interest received Rs. 1, 500.
   Machinery purchased for Rs. 50, 000.
   Purchase goods for Rs. 5, 000 from XY Co. on credit.

b) Discuss the advantages of ratio analysis.

Q. 4: Answer the following questions- **10 X 2 = 20**

a) Following is the Trial Balance of SS & Co. as on 31.12.2016 along with the additional information. Prepare Trading and Profit and Loss Account for the year ended 31.12.2016 and the balance Sheet as on that date.

Trial Balance of SS & Co. as on 31.12.2016

Particulars	Amount	Particulars	Amount
Purchases	30, 000	Interest received on investment	800
Sundry Debtors	40, 000	Sales	64, 200
Salaries	6, 000	Returns outward	1, 000
Wages	4, 000	Sundry Creditors	24, 000
Rent and Rates	3, 000	Capital	20, 000
Returns Inward	2, 000	Commission	1, 200
Bad Debt	1, 400	Interest	400
Drawings	4, 800		
Printing and Stationery	1, 600		
Insurance	2, 400		
Opening stock	10, 000		
Administration expenses	2, 400		
Furniture	4, 000		
	1, 11, 600		**1, 11, 600**

Adjustment:

- Depreciate furniture by 10%
- Make a provision for bad and doubtful debt @ 5 % on Sundry Debtors.
- Insurance includes prepaid for Rs. 400
- Administration expenses is remaining outstanding for Rs. 1, 600
- Closing stock is valued at Rs. 12, 000.

b) What is cash flow statement? Discuss the importance of cash flow statement.

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COURSE: LINUX SYSTEM ADMINISTRATION

(MCA-20)

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. Name the different types of editor in LINUX.

Q2. What is the difference between LINUX and UNIX?

Q3. What are the different file permissions for file in LINUX?

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

Q1. Describe briefly the three modes of vi editor.

Q2. Describe briefly the **ftp** commands used for remotely copying and deleting files.

Q3. Explain the input and output redirection using suitable examples.

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

Q1. Write a shell script to find the factorial of a number.

Q2. What is the role of System Administrator? How can he manage the user's account in the system?

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

Q1. What are the main components of a Linux Kernel? Describe in brief the different types of shell.

Q2. How to find the process id of a program (say Chrome) running on your machine? Write the command to close the program using command line. Explain the steps briefly.

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Assignment Guidelines

A. Guidelines to Co-ordinators:

1.   Assignments are parts of teaching-learning process and compulsory.

2.   The spirit behind this is to help learners to understand the subject and prepare themselves better for the term-end examination.

3.   Assignment responses are to be evaluated and feedbacks are required to be communicated to the learners, by giving back the assignments with evaluator's comments. Such assignments are to be collected at the time of issuing admit cards and be stored in the centre's office till the end of next semester.

4.   Assignment marks are to be sent to the Controller of Examinations as soon as the examination routines are published.

5.   Keeping the above points in mind Co-ordinators will fix the time/date of submission of assignments by the learners as may be convenient to follow the guidelines in true spirits.

B. Guidelines to learners:

1.   As soon as the SLMs are received the learners will write the assignments in their own handwriting (assignment questions may be downloaded from the website, if necessary) to be submitted to Co-ordinators as per the dates fixed for the purpose. Timely submission of assignments at the Study Centres will help in quick processing of results of respective learners. Otherwise this will create unnecessary delay in declaration of results.

2.   Writing of assignment (work) and submission of the same in time is compulsory.

Registrar

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 **5th Semester MCA** on ………………2019.

Date: Signature of collector with seal

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