

BACHELOR OF COMPUTER APPLICATIONS (C.B.C.S.) (2014 COURSE) B.C.A.

Sem-VI: WINTER- 2019

SUBJECT: INFORMATION SECURITY (UE)

Wednesday 13-11-2019

02:00 PM-05:00 PM

W-11057-2019

Max. Marks: 60

N. B. :

- 1) Attempt **Any FOUR** questions from **Section – I** and Attempt **Any TWO** questions from **Section - II**
- 2) Answer to both the section should be written in **SAME** answer book.
- 3) Figures to the right indicate **FULL** marks.

SECTION - I

- Q.1** What is need of security? Explain legal and ethical issues in security. (15)
- Q.2** What is risk management? What type of security should be used to minimize the risk? (15)
- Q.3** Explain working of Advanced Encryption Standard algorithm. (15)
- Q.4** What is network topology? Discuss any two topologies in detail. (15)
- Q.5** Explain how digital certificate provides information security. (15)
- Q.6** Explain Cost Benefit Analysis in risk management. (15)
- Q.7** Write short notes on **Any THREE** of the following : (15)
- a) Firewall
 - b) Kerberos
 - c) Caesar Cipher
 - d) ATM

SECTION - II

- Q.8** What is intrusion detection system? How it can be used for providing security. (20)
- Q.9** ABC is a private Cooperative Bank. They maintain accounts of many customer. Bank has a facility of internet banking. What kind of different security measure can be implemented to secure internet banking? (20)
- Q.10** A company has 2 Mbps broadband internet connection for 10 hosts on peer LAN to meet its day to day transaction. Now 10 more host are newly required to be added to the current network setup. Design a network, which specifies type of network, topology and other design issues. (20)

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INTEGRATED MASTER OF COMPUTER APPLICATIONS (CHOICE BASED
CREDIT SYSTEM) I.M.C.A. Sem-VI: WINTER- 2019

SUBJECT: BUSINESS INTELLIGENCE (UE)

(Common for BCA-2014 Course Sem - VI)

Friday 15-11-2019

ABCS

W-10078-2019

02:00 PM-05:00 PM

Max. Marks: 100

N.B.:

- 1) Attempt any **FOUR** questions from Section –I and any **TWO** questions from Section –II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SAME** answer book.

SECTION-I

- Q.1 Explain K – Means Method in detail. (15)
- Q.2 Explain data pre – processing techniques in detail. (15)
- Q.3 Explain different schemas of data warehouse. Illustrate with example. (15)
- Q.4 Difference between OLAP and OLTP. (15)
- Q.5 Explain decision tree induction with suitable example. (15)
- Q.6 How Business Intelligence is effective for decision making process? Justify. (15)
- Q.7 Write short notes on any **THREE** of the following: (15)
- a) ROLAP Model
 - b) Classification
 - c) Clustering
 - d) Association Rule

SECTION-II

- Q.8 a) What is a data mart? Why data mart is important in creating data warehouse? Explain. (20)
- b) Explain meta data and its classification in detail.
- Q.9 Consider following transactional data for ABC Hardware Peripherals Pvt. Ltd. (20)

T ₀₁	P ₁ , P ₂ , P ₅
T ₀₂	P ₂ , P ₄
T ₀₃	P ₂ , P ₃
T ₀₄	P ₁ , P ₂ , P ₄
T ₀₅	P ₁ , P ₃
T ₀₆	P ₂ , P ₃
T ₀₇	P ₁ , P ₃
T ₀₈	P ₁ , P ₂ , P ₃ , P ₅
T ₀₉	P ₁ , P ₂ , P ₃

Write an Apriori algorithm and apply it on above transactional data for min_support = 2.

- Q.10 a) Describe the different functionalities provided by Informatica tool. (10)
- b) Explain Data Mining architecture. (10)

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(Common For IMQA Sem-VI)

BACHELOR OF COMPUTER APPLICATIONS (C.B.C.S.) (2014 COURSE) B.C.A.
Sem-VI: WINTER- 2019
SUBJECT: WEBSITE DEVELOPMENT (UE)

Monday 18-11-2019
02:00 PM-05:00 PM

W-11059-2019
Max. Marks: 60

N.B.

- 1) Attempt any **FOUR** Questions from sections –I. Each questions carries 15 marks
- 2) Attempt any **TWO** Questions from section-II. Each questions carries 20 marks.
- 3) Answer to both the section should be written in the **SAME** answer book.

Section – I

- Q.1** What is operator? Explain different operators in PHP. (15)
- Q.2** Explain different looping statements in PHP with example. (15)
- Q.3** What is session? Explain various steps of passing session IDs in the query string. (15)
- Q.4** Explain with example Associative array in PHP. (15)
- Q.5** Explain with example retrieving data from multiple table. (15)
- Q.6** Explain various steps to connect and disconnect database in MySQL with PHP (15)
- Q.7** Write short notes on any **TWO** of the following: (15)
- a) Aggregate data
 - b) Conditional statements
 - c) Date and Time functions

Section – II

- Q.8** a) Write a PHP script to find whether the given number is prime or not. (10)
- b) Write a PHP script to print even and odd numbers between first 100 numbers. (10)
- Q.9** Write user defined functions for following using PHP
- a) To print concatenated string (10)
 - b) To print reverse of a given number (10)
- Q.10** Write a PHP script to generate employee's database for a company to given fields: (20)
Regno, Employee name, Address, MobileNo, Emailid, Salary.

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BACHELOR OF COMPUTER APPLICATIONS (C.B.C.S.) (2014 COURSE) B.C.A. /
I.M.C.A Sem-VI: WINTER- 2019
SUBJECT: OPERATIONS RESEARCH (UE)

Wednesday 20-11-2019
02:00 PM-05:00 PM

W-11060-2019
Max. Marks: 100

N.B.:

- 1) Attempt **ANY FOUR** questions from Section – I and attempt **ANY TWO** questions from Section – II.
- 2) Answer to both the section should be written in **SAME** answer book.
- 3) Use of non-programmable **CALCULATOR** is allowed.
- 4) Graph papers and statistical table will be permitted if necessary.
- 5) Figures to the right indicate **FULL** marks.

SECTION – I

Q.1 A carpenter manufactures two wood items, A and B. The total number of items that the carpenter can handle per day at the most, is 24. It takes one hour to make item A and half an hour to make item B. It is assumed that the carpenter can work for a maximum of 16 hours a day. Further, the profit on item A is Rs. 300 and that on item B is Rs. 100. Formulate this LPP and also calculate the maximum number of both items that can be produced daily to maximize the profit. **[15]**

Q.2 A company has three plants P_1 , P_2 and P_3 which supply to warehouses at W_1 , W_2 , W_3 and W_4 . The monthly plant capacities are 160, 150 and 190 units and the warehouse requirements are 80, 90, 110 and 160 units respectively. The unit transportation costs (in Rs.) are as follows: **[15]**

		To			
		W_1	W_2	W_3	W_4
F_1		42	48	38	37
F_2		40	49	52	51
F_3		39	38	40	43

Solve this problem to minimize transportation cost.

Q.3 Solve the following assignment problem: **[15]**

	a	b	c	d	e
A	160	130	175	190	200
B	135	120	130	160	175
C	140	110	155	170	185
D	50	50	80	80	110
E	55	35	70	80	105

Q.4 Draw the critical path and find the project duration for the following network: **[15]**

Activity	Immediate predecessor	t_o	t_m	t_p	Activity	Immediate predecessor	t_o	t_m	t_p
A	--	1	3	7	E	B	3	7	15
B	A	2	6	14	F	D, E	2	5	14
C	A	3	3	3	G	D	4	4	4
D	B, C	4	10	22	--	--	--	--	--

- a) Draw the network diagram.
- b) Find the critical path, the expected project duration completion time, and the next most critical path.
- c) What project duration will have 95% confidence of completion?

P.T.O.

- Q.5** A flower dealer purchases flowers in the evening and delivers them to an organization by 8.00 a.m. the next day. The daily demand for roses is as follows: [15]

Dozens of flowers	7	8	9	10
Probability	0.1	0.2	0.4	0.3

The management purchases flowers at Rs. 10 per dozen and sells them for Rs. 30. All the unsold roses are donated to a nearby hospital. How many dozens of flowers should the manager order each evening to maximize its profit? What is the optimum profit?

- Q.6** In a doctor's clinic, patients arrive according to Poisson distribution at an average rate of 15 patients per hr. The waiting room can accommodate 14 patients at the maximum. The examining time per patient is exponentially distributed with the mean rate 10 per hr. Find the: [15]
- Effective arrival rate of patients at the clinic.
 - Probability that an arriving patient does not have to wait.
 - Probability that an arriving patient will find a vacant seat in the room.
- Q.7** Write short notes on **ANY TWO** of the following: [15]
- Scope of Operations Research
 - Models of Operations Research
 - Decision making under uncertainty
 - Characteristics of M/M/I Queue Model

SECTION – II

- Q.8** Solve the following LPP using the simplex method: [20]
- Max $Z = -4x_1 + x_2$
 Subject to $-x_1 + x_2 \leq 1$
 $x_1 - 2x_2 \leq 2$
 and $x_1, x_2 \geq 0$
- Q.9** Solve the following transportation problem: [20]

	D ₁	D ₂	D ₃	D ₄	Supply
O ₁	23	27	16	18	30
O ₂	12	17	20	51	40
O ₃	22	28	12	32	53
Demand	22	35	25	41	

- Q.10 a)** Explain the Network Crashing. [10]
- b)** Discuss the applications of Assignment Problems. [10]

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