

B.C.A. SEM–VI (2014 Course) CBCS : SUMMER - 2019

SUBJECT: INFORMATION SECURITY

Day : Monday
Date : 15/04/2019

Time 10.00 AM TO 01.00 PM
Max. Marks: 100

S-2019-2079

N.B.

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

SECTION – I

- Q.1** Discuss various issues in Information Security. [15]
- Q.2** Explain in brief different security models with their functions. [15]
- Q.3** Explain the terms: [15]
a) TEMPEST standards
b) Security Vs. ATM
- Q.4** What is cryptography? Discuss evolution of cryptography with its applications. [15]
- Q.5** Discuss in detail digital signature with its schemas and diagrammatic representations. [15]
- Q.6** What is Security? Discuss structure of Security. [15]
- Q.7** Write short notes on **ANY THREE** of the following: [15]
a) Firewalls
b) Wireless Mobile Networks
c) RC 4000 software
d) Kerberos

SECTION – II

- Q.8** State and explain various security protocols with their functions and the significance in brief. [20]
- Q.9** Describe in brief secure programming languages with its advantage and importance. [20]
- Q.10** Kudan software system is an IT company. You are appointed as IT security professional with in the company. Write your key roles and responsibilities of yours for the with in the company. [20]

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B.C.A. SEM–VI (2014 Course) CBCS : SUMMER - 2019
SUBJECT : BUSINESS INTELLIGENCE

Day : Tuesday
Date : 30/04/2019

S-2019-2080

Time : 10.00 AM TO 01.00 PM
Max. Marks : 100

N.B. :

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

SECTION – I

- Q.1** Explain the role of computerized decision support in business environment. (15)
- Q.2** Explain the users and benefits of a data warehouse. (15)
- Q.3** What is data mart? Explain top-down and bottom-up approaches of building a data mart. (15)
- Q.4** Define business intelligence. Explain process and framework of business intelligence. (15)
- Q.5** What is the need of cluster analysis? Explain types of cluster analysis methods. (15)
- Q.6** Explain the three tier architecture of a data warehouse. (15)
- Q.7** Write short notes on **ANY TWO** of the following. (15)
- a) Need for Data Mining.
 - b) KDD process.
 - c) Functionality of BI tools

SECTION – II

- Q.8** Explain the need and operations of OLAP with example. (20)
- Q.9** Explain decision tree induction algorithm with suitable example. (20)
- Q.10** Explain various types of data in cluster analysis with example. (20)

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B.C.A. SEM-VI (2014 Course) CBCS : SUMMER - 2019

SUBJECT : WEBSITE DEVELOPMENT

Day : Monday
Date : 22/04/2019

S-2019-2081

Time : 10.00 AM TO 01.00 PM
Max. Marks :100

N.B.

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

SECTION – I

- Q.1** What are different data types and constraints used in PHP. (15)
- Q.2** a) Explain Bob's order for storing and retrieving data. (08)
b) Explain switch statement with suitable example. (07)
- Q.3** Explain date and time functions in PHP. (15)
- Q.4** Explain setting and deleting cookies with PHP. (15)
- Q.5** How to check and filter input data using MySQL? (15)
- Q.6** Explain PHP classes with example. (15)
- Q.7** Write short notes on: (15)
a) Arrays in PHP
b) Grouping and Aggregate data
c) Web database architecture

SECTION – II

- Q.8** Write user defined functions for the following using PHP: (20)
a) To print concatenated string
b) To print reverse of a given number
- Q.9** Create an application in PHP to design an input form for online library. (20)
- Q.10** Write a PHP script to generate student's database for an institute. (20)
Assume: registration no., student name, course, address, mobile number, email in an information file.

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B.C.A. SEM-VI (2014 Course) CBCS : SUMMER - 2019
SUBJECT : OPERATION RESEARCH

Day : Wednesday
Date : 24/04/2019

S-2019-2082

Time : 10.00 AM TO 01.00 PM
Max. Marks :100

N.B.

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

SECTION – I

Q.1 Define Operation Research. Also discuss their models in detail.

Q.2 A company can produce two product A and B. Each product has to be processed by three machines X, Y and Z.
Machine X can be operated for a total time of 2700 minutes, it takes 11 minutes of an item A and 5 minutes for an item B. Machine Y can be operated for 2000 minutes and its takes 5 minutes for an item A and 10 minutes for total time of 450 minutes and it takes 1 minutes for A and 2 minutes for B. The profit per item of A is 10 and per item of B is Rs. 15. Find the number of units of A and B to be produced so as to maximize the profit.

Q.3 Find the initial basic feasible solution of the following transportation problem by Vogel's approximate method.

Warehouse

Factory	W ₁	W ₂	W ₃	W ₄	Capacity
F ₁	10	30	50	10	7
F ₂	70	30	40	60	9
F ₃	40	8	70	20	18
Requirement	5	8	7	15	

Q.4 Three jobs A, B, C are to be assigned to three machines X, Y, Z. The processing cost (Rs.) are as given in the matrix show below. Find the allocation which will minimize the overall processing cost.

	X	Y	Z
A	19	28	31
B	11	17	16
C	12	15	13

Q.5 Given the following pay off matrix choose the action using minimax regret criterion:

State the nature	Action			
	A ₁	A ₂	A ₃	A ₄
S ₁	8	8	9	2
S ₂	10	5	2	6
S ₃	8	6	5	11

P.T.O.

Q.6 Draw a network diagram of activities for the project:

Activity	A	B	C	D	E	F	G	H
Predecessor Activity	-	A	A	B	B,C	E	D,F	G

Q.7 Write short notes on the following:

- Application of Poisson distribution
- Expected opportunity loss
- Hungarian method

SECTION – II

Q.8 A fertilizer company distributes its products by trucks loaded at its only loading station. Both company trucks and contractors truck are used for this purpose. It was found out that on an average every 5 minutes on truck arrived every 5 minute one truck arrived and the average loading time was 3 minutes 40% of the truck belongs to the contractors.

Determine:

- The probability that a truck has to wait.
- The waiting time of a truck that waits.
- The expected waiting time of contractors trucks per day.

Q.9 Solve the LPP by simplex method

Maximize $Z = 45x_1 + 55x_2$

Subject to constraints $6x_1 + 4x_2 \leq 120$

$3x_1 + 10x_2 \leq 180$

$x_1, x_2 \geq 0$

Q.10 A project has the following characteristics:

Activity	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Preceding Activity	-	A	A	B	D	D	D	B	C,E	G	F,I,J	K	H,G	M
Time in Weeks	5	2	6	12	10	9	5	9	1	2	3	9	7	8

- Draw a PERT network.
- Find the various paths and critical both as well as the project completion time.

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