Total Pages – 3

VUG(6)–BCA(C-6002)

2018-21

Full Marks : 70

Time : 3 hours

Answer from **both** the Sections as directed

The questions are of equal value

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

SECTION – A

Answer any **four** questions

1. What is deligation of authority ? What are the steps involved in deligation of authority ? And why it is important ?

2. Explain the types of management skills. Why they are important ?

3. Explain the role of Henry Fayol in the evolution of management theories.

(*Turn Over*)

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4. Explain the tools of scientific management.

5. Explain need, importance and types of planning.

6. What is business ethics and Social Responsibility ? How does this affect employees, organization and society ?

7. What is meant by management control process ? What are the steps in the control process ?

8. What are the concept of motivation ? Also explain the steps involved in motivation.

SECTION – B

Answer **all** questions

9. What are the qualities of a good leader ?

10. What are the levels of management ?

11. What are the steps in planning process ?

12. Explain how management is considered to be both an art and science.

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13. What are the tools of business ethics ?

14. What are the elements in organizing process ?

15. What is the role of staffing in management ?

16. What are the types of communication in management ?

17. Define Management.

18. What is the aim of coordination ?

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Total Pages —5

VUG(6)—BCA (C-6001)
Opt. Tech.

2018-21

Full Marks : 70

Time : 3 hours

Answer from **both** the Sections as directed

The figures in the right-hand margin indicate marks

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

SECTION—A

Answer any **four** questions : 10 × 4

1. Give any three definitions of operation research and explain them.

2. Discuss the advantage and limitations of operation Research.

3. Describe the guidelines on linear programming model formulation.

(*Turn Over*)

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4. Use the graphical method to solve the following LP problem.

Minimize $Z = 3x_1 + 2x_2$

subject to constrants

$$5x_1 + x_2 \geq 10$$
$$x_1 + x_2 \geq 6$$
$$x_1 + 4x_2 \geq 12$$
$$\text{and } x_1, x_2 \geq 0.$$

5. Solve the LP problem using Simplex method :

Max $Z = 4x_1 + 3x_2$

subject to constrants

$$2x_1 + x_2 \leq 1000$$
$$x_1 + x_2 \leq 800$$
$$x_1 \leq 400$$
$$x_2 \leq 700$$
$$\text{and } x_1, x_2 \geq 0.$$

6. Describe the Transportation problem with its general Mathematical formulation.

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7. A computer centre has three expert programmers. The centre wants three application programmes to be developed. The head of the computer centre after studying carefully the programmes to be developed, estimates the computer time in minutes required by the experts for the application programms as follows :

		Programmers		
		A	*B*	*C*
Programmes	1	120	100	80
	2	80	90	110
	3	110	140	120

Assign the programmers to the programmes in such a way that the total computer time is minimum.

8. An architect has been awarded a contract to prepare plant for an urban renewal project. The job consists of the following activities and their estimated times.

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Activity	Description	Immediate Predecessor	Time (days)
A	Prepare sketches	—	2
B	Outline specification	—	1
C	Prepare drawing	A	3
D	Write specification	A, B	2
E	Run off prints	C, D	1
F	Have specification	B, D	3
G	Assemble b/d packages	E, F	1

(*a*) Draw the network diagram of activities for the project.

(*b*) Indicate the critical path and calculate the total float and free float for each activity.

SECTION—B

Answer **all** questions are compulsory : 3×10

9. (*i*) Define slack and surplus variables in a linear programming problem.

(*ii*) Explain the term artificial variables and its use in linear programming.

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(iii) What are the characteristics of transportation problem of linear programming ?

(iv) What is meant by a feasible solution of an LP problem ?

(v) What is float ? What are the different types of floats ?

(vi) Explain Events and Activities in PERT and CPM.

(vii) Explain Initial basic feasible solution.

(viii) How Assignment problem is different from Transporation problem ?

(ix) Explain non-negativity condition in linear programming problem.

(x) Explain Simplex table with its components.

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Total Pages —3

VUG(6)—BCA(C-6003)

2018-21

Full Marks : 70

Time : 3 hours

Answer from **both** the Sections as directed

The figures in the right-hand margin indicate marks

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

SECTION — A

Answer any **four** questions : 10 × 4

1. Explain Accounting and its features and advantages.

2. Explain Internal users and external users of accounting information.

3. Explain Cash flow statement and fund flow statement.

4. Explain Ledger and its template and its uses.

(*Turn Over*)

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5. What is a Trial Balance ? Explain different components of a Trial Balance. Explain the different methods of preparing a trial balance.

6. Explain meaning and types of finance.

7. Explain Assets and liabilities and its types.

8. Classification of accounts (PA, RA, NA).

SECTION – B

Answer **all** questions : 10 × 3

9. What are the importances of Accounting standard ?

10. Explain Double entry system (duality principle).

11. Difference between Bookkeeping vs. Accounting.

12. What is the difference between Trade discount and Cash discount ?

13. Explain Stock (inventories) and its types.

14. Explain Golden rule of accounting.

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15. What are the uses of Sub-journal or subsidiary books ?

16. Explain meaning and importance of financial management.

17. Explain Nature/characteristics of financial management.

18. Explain objectives of financial management.

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VUG (6)-BCA (E-6007)
Mgt. Inf. Sys.

2018-21

Full Marks : 70

Time : 3 hours

Answer from **both** the Groups as directed.

The figures in the right-hand margin indicate marks.

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

GROUP—A

Answer any *four* questions : 10 × 4

1. Define Management Information System (MIS) and discuss various characteristics expected of a good MIS.

2. State the difference between MIS and a computer system. Discuss structured and unstructured decisions. Give four examples of each.

3. Can you think of an MIS which could beuser independent and business dependent ? Explain using suitable example.

(*Turn Over*)

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4. What is the relevance of Nolan's Stage Growth Model for the study of Information Systems in Today's organization ?

5. What are the expert systems and how do they help in decision making ? Can you give an example to illustrate the same ?

6. Describe the major phases in MIS Design. Can you compare these phases ?

7. With the help of diagram, explain the concept of DSS. How do MIS and DSS differ ?

8. Discuss some of the Soft Spots in Planning in MIS Development.

GROUP—B

All questions are compulsory : 3 × 10

9. What are different types of information ?

10. What do you mean by Data Capturing ?

11. What do you mean by relevance of information ?

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12. Differentiate between 'decision' and 'decision making process'.

13. Discuss the role of MIS in various phases of decision making.

14. Discuss various pitfalls in the development of MIS.

15. Differentiate between structured and unstructured classes of decision.

16. Briefly describe various models for MIS evaluation.

17. What do you mean by Balanced MIS ?

18. Briefly comment on need of DSS.

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Total Pages —3

VUG(6)—BCA(C-6004)
Network Security

2018-21

Full Marks : 70

Time : 3 hours

Answer from **both** the Groups as directed

The figures in the right-hand margin indicate marks

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

GROUP—A

Answer any **four** questions : 10 × 4

1. Define the terms Confidentiality, Integrity and Availability. Give three examples each of two attacks that violate these goals.

2. Explain the term Cryptography. Also explain the various security attacks and their types.

3. What is DES ? Using suitable diagram, explain its one complete iteration in detail.

(*Turn Over*)

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4. How does symmetric key cryptography and asymmetric key cryptography get used in digital signatures ?

5. (*a*) What are the different approaches to produce message authentication ?

   (*b*) What is the difference between a message authentication code and a one-way hash function.

6. (*a*) What is meant by Block Cipher ?

   (*b*) What are the key algorithms used in S/MIME ?

7. Describe any five types of virus that can infect a system.

8. Explain Secure Socket Layer nad Transport Layer security.

GROUP–B

9. Write short notes on the following : 3 × 10

   (*i*) Types of Digital watermarking

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(ii) Internetwork Security

(iii) Biometrics

(iv) Secure Electronic Transactions

(v) Post Office Protocol 3s (POP3s)

(vi) Asymmetric Cryptography

(vii) Firewall Design Principles

(viii) IDS

(ix) Digital Signature

(x) Threats in System Security.

Internet

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