BCA I SEMESTER EXAMINATION 2010-11

Course Code: BCA101 **Paper ID: 0121101**

Mathematics I

Time: 3 Hours **Max. Marks: 75**

Note: Attempt six questions in all. Q. No. 1 is compulsory.

1. Answer any five of the following (limit your answer in 50 words). (3x5=15)
   a) Define diagonal matrix.
   b) What is singular and non singular matrix?
   c) Write down the properties of the determinant.
   d) How you can find the inverse of a matrix?
   e) Define finite set and infinite set.
   f) Define universal set.
   g) How you can find the differentiation of product of two functions.
   h) Evoluate $\int (x^3 - 4x^2 + 7x - 10)dx$

2. if A = $\begin{bmatrix} \cos\theta & -\sin\theta \\ \sin\theta & \cos\theta \end{bmatrix}$, B = $\begin{bmatrix} \cos\theta & -\sin\theta \\ \sin\theta & \cos\theta \end{bmatrix}$ (12)
   show that AB = BA

3. Evaluate $A^2 - 4A - 5I$, where (12)
   A = $\begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$ and I = $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$

4. Find the inverse of the matrix A = $\begin{bmatrix} 1 & 2 & 3 \\ 0 & 5 & 0 \\ 2 & 4 & 3 \end{bmatrix}$ (12)

5. Solve the equation by Crammer's rule (12)

   x + y + z = 7
   x + 2y + 3z = 16
   x + 3y + 4z = 22

6. if U be universal set and A $A \subset U, B \subset U$ then the complement of union of two sets A and B is equal to intersection of their complements i.e (12)

   $(A \cup B)' = A' \cap B'$

7. Differentiate $\log_e (x + \sqrt{(x^2 - a^2)}\, dx$ with respect to x (12)

8. Evaluate $\int \frac{dx}{\sqrt{a^2 - x^2}}$ (12)

BCA I SEMESTER EXAMINATION 2010-11

Course Code: BCA102 **Paper ID: 0121102**

Principles of Economics

Time: 3 Hours **Max. Marks: 75**

Note: Attempt six questions in all. Q. No. 1 is compulsory.

1. Answer any five of the following (limit your answer in 50 words). (3x5=15)
   a) What is marginal utility?
   b) What happens to consumer equilibrium when two commodities are perfect substitute of each other?
   c) What do you mean by unitary price elasticity of demand?
   d) What do mean by market in economics?
   e) What is constant cost Industry?
   f) What is meant by backward sloping supply curve of labour?
   g) What is normal profit?
   h) What is consumer surplus?

2. Dfdf
   a) What do you mean by Micro and Macro Economics? How are they interdependent? (6)
   b) Discuss the relevance of economics in business management. (6)

3. Discuss the properties of indifference curve? Show consumer equilibrium with indifference curve? (12)

4. Define the term 'Elasticity of demand' what is the relation between elasticity of demand and slope of the demand curve? (12)

5. Explain the law of variable proportion with suitable example and diagram? (12)

6. A competitive firm is not a price determinator but an output adjustor. Elucidate? (12)

7. What do you mean by oligopoly? Discuss its features. How the price is determined under oligopolistic competition? (12)

8. 'Rent is the reward for specificity.' Critically examine this statement. (12)

BCA I SEMESTER EXAMINATION 2010-11

Course Code: BCA103 **Paper ID: 0121102**

Computer Fundamentals and programming Concepts

Time: 3 Hours **Max. Marks: 75**

Note: Attempt six questions in all. Q. No. 1 is compulsory.

1. Answer any five of the following (limit your answer in 50 words). (3x5=15)
   a) What are the limitations of computer system?
   b) Discuss briefly the various classifications of computers.
   c) Write short note on DOS.
   d) Explain HELP, CD and REN command with example.
   e) What is auto correct feature in MS-Word?
   f) Write short note on indents in MS-Word.
   g) Write short note on worksheet in MS-Excel.
   h) What are Data types?

2.
   a) Discuss various types of Visual Display Unit (VDU) are available for computers. (6)
   b) Discuss various types of optical memories used in computers. (6)

3. What is language? Explain various types of programming languages. (12)

4.
   a) Explain DIR command with all options. (6)
   b) Explain ATTRIB command with all options. (6)

5. Explain following in MS-Word: (4x3=12)
   a) Spell Check
   b) Inserting Object
   c) Page Setting

6. Explain following in MS-Excel: (4x3=12)
   a) Sorting Data
   b) Use of functions
   c) Cell referencing forms

7. Explain different ways to create labels in MS-Access. (12)

8. Explain different types of loops with examples. (12)

BCA I SEMESTER EXAMINATION 2010-11

Course Code: BCA104 **Paper ID: 0121104**

Principles of Management

Time: 3 Hours **Max. Marks: 75**

Note: Attempt six questions in all. Q. No. 1 is compulsory.

1. Define briefly any five of the following (limit your answer in 50 words): (3x5=15)
   a) Span of Control.
   b) On Job Training.
   c) Maslow's Theory of Motivation.
   d) Scientific Management
   e) Corporate Social Responsibility.
   f) Goals and Objectives.
   g) Channels of Recruitment.
   h) Team Work.
2. Explain Weber's contribution to modern management. (12)
3. What is planning? Mention the steps involved in planning. (12)
4. What do you understand by centralization and decentralization? Explain the merits and demerits of centralization. (12)
5. What is Training? Explain in detail different method adopted for training. (12)
6. Explain in detail the leadership style of any one of following leaders: (12)
   a) Dr. Manmohan Singh
   b) Mr. Ratan Tata
7. What is Employee Retention? Explain the various ways that companies adopt to retain employees. (12)
8. Explain management by objectives and also discuss its disadvantages. (12)

BCA I SEMESTER EXAMINATION 2010-11

Course Code: BCA105 **Paper ID: 0121105**

Environment Studies

Time: 3 Hours **Max. Marks: 75**

Note: Attempt six questions in all. Q. No. 1 is compulsory.

1. Answer any five of the following (limit your answer in 50 words). (3x5=15)
   a) Define BOD and COD.
   b) Mention biotic components of an ecosystem.
   c) Differentiate between food chain and food web.
   d) Name three types of ecological pyramids? Which pyramid is always straight?
   e) Give sources of air pollution.
   f) Enlist three effects of acid rain.
   g) Mention major impacts of global warming.
   h) Give examples of gaseous, liquid and solid pollutants.

2. What do you mean by water pollution? What are the main sources of water pollution? List the main effects of water pollution on human health. (12)

3. How would you differentiate between conventional and non-conventional sources of energy? Which sources of energy could be of vital importance in reducing environmental pollution and mitigating global warming and why? (12)

4. How is atmospheric pollution leading to ozone layer depletion? What would be the possible impacts of ozone layer depletion? (12)

5. Discuss how human population is negatively affecting the environment? What are your suggestions to control the population? (12)

6. What is an ecosystem? What are the different components of an ecosystem? How does energy flow through an ecosystem? Discuss by citing examples. (12)

7. What are the advantages and disadvantages of large hydro power projects? Discuss by giving suitable examples. (12)

8. Environmental education can improve the quality of our environment and human health. Write your views on this statement. (12)