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PGVS-884 B-19
M.CA. V Semester Degree Examination
Computer Science
Internetworking and Web Design
Paper : MCA 5.2

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. Answer any **Five** questions.
2. All questions carry **equal** marks.

1. a) Explain TCP/IP suite with a neat diagram. (8)
   b) What is internetworking? List and explain the standard internet services. (8)
2. a) Explain ICMP and discuss the functions. (8)
   b) Draw and explain IPV6 packet header format. (8)
3. a) Explain coding approaches for multiple screen resolutions. (8)
   b) Explain the factors which affect the bandwidth of a network. (8)
4. a) What is browser? Explain web browser architecture. (8)
   b) Explain active document representation and Translation. (8)
5. a) Explain different ways to insert style sheets in CSS with example. (8)
   b) Explain decision making and decision control statements in java script with suitable examples. (8)
6. a) Explain different classes of IP addresses with suitable example. (8)
   b) What is DNS? Discuss the functions performed by DNS. (8)
7. a) Describe the web site planning process. (8)
   b) Explain CGI applications. Bring out the differences between static and dynamic web site. (8)
8. Explain any **Two** of the following. (2×8=16)
   a) Data types in java script.
   b) FTP
   c) Servers
   d) Special IP addresses.

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PGVS-885 B-19
M.C.A. V Semester Degree Examination
COMPUTER SCIENCE
Modeling and Simulation
Paper : MCA 5.3

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. Answer any **Five** questions.
2. All questions carry **equal** marks.

1. a) What is simulation? Explain the steps involved in simulation study with flowchart. **(8)**

   b) Define the following terms:

   i) System

   ii) Activity

   iii) Endogenous event

   iv) Exogenous event. Identify them for any one system. **(8)**

2. a) Explain discrete random variable and continuous random variable with examples. **(8)**

   b) Explain the following discrete distributions.

   i) Binomial distribution

   ii) Poisson distribution. **(8)**

3. a) Explain the characteristics of a queuing system. Briefly explain queuing notations. **(8)**

   b) Write an algorithm to generate a set of pseudo random numbers from a given exponential distribution. **(8)**

4. a) What are the available simulation softwares? Explain how do you select the simulation software. **(8)**

   b) Design C++ code to simulate a single server queue. **(8)**

5. a) Explain the different ways of selecting input models when data is not available. **(8)**

   b) Describe chi-square goodness-of-fit test. **(8)**

6. a) Discuss time series and multivariate input models. (10)

b) Explain the list processing in detail. (6)

7. a) With a neat diagram, explain the concept of model building, verification and validation. (10)

b) Describe the guiding principles of verification of models. (6)

8. Write short notes on any **Two** of the following: (2×8=16)

a) Monte - Carlo simulation.

b) Elimination of transients

c) Variance reduction technique.

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PGVS-886 B-19
M.CA. V Semester Degree Examination
Computer Science
Data Warehousing and Mining
Paper : MCA 5.4

Time : 3 Hours Maximum Marks : 80

Instructions to Candidates:

1. Answer any **Five** questions.
2. All questions carry **equal** marks.

1. a) What is strategic information? Why it is needed? How strategic information is built? Explain. (8)
   b) Why data warehouse is important for any business? Discuss. (8)
2. a) What is data mart? What are its uses and applications? Explain with an example. (8)
   b) Explain operational and analytical databases and give comparison among them. (8)
3. a) Describe the data modeling strategies used for any business. (8)
   b) Discuss the architecture of multidimensional data models. (8)
4. a) Discuss OLAP models and its operations. (8)
   b) Describe the data extraction, transformation and loading process in a data warehouse. (8)
5. a) Draw architecture of Oracle data warehouse and explain its components. (8)
   b) Who is DBA? What are the responsibilities of DBA? Discuss. (8)
6. a) What are the factors to be considered in building physical storage? Explain. (8)
   b) Discuss the activities involved in the deployment of data warehouse. (8)
7. a) Describe the procedure to be followed in the maintenance of data warehouse. (8)
   b) Discuss the different data mining techniques. (8)
8. Write notes on any **Two** of the following: (2×8=16)
   a) Knowledge discovery
   b) Fact tables.
   c) Capacity planning.
   d) Web mining.

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PGVS-887 B-19
M.CA. V Semester Degree Examination
Computer Science
Digital Image Processing
Paper : MCA 5.5(d)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. Answer any **Five** questions.
2. All questions carry **equal** marks.

1. a) List the steps of DIP System. Explain any three in detail. **(8)**
   b) Describe the image model with its component. **(8)**
2. a) What is contrast? Describe sampling and quantization in Detail. **(8)**
   b) Define pixel connectivity. Explain 4,8 and m-Adjacency. **(8)**
3. a) How to plot the histogram of image? Illustrate with example. **(8)**
   b) Differentiate between the frequency and spatial enhancement. **(8)**
4. a) Draw a neat diagram of image degradation model Explain. **(8)**
   b) Enlist the basic gray level transformations. Explain image Negative with an example. **(8)**
5. a) What is image compression? Describe the elements of information theory. **(8)**
   b) Explain the various image compression standards. **(8)**
6. a) Discuss the periodic noise reduction in frequency domain filtering. **(8)**
   b) Explain the filtering in frequency domain for smoothing and sharpening. **(8)**
7. a) Define Segmentation? Discuss the boundary detection. **(8)**
   b) Explain the importance of basic morphological algorithms in image segmentation. **(8)**
8. Write short notes on any two of the following: **(2×8=16)**
   a) Average Filtering.
   b) Detection of Discontinuities.
   c) Pixel Relationship.
   d) Homomorphic Filtering.