

Total No. of Questions : 12]

SEAT No. :

P2343

May - 2017

[Total No. of Pages : 2

[5156] - 52

**TYMCA (Engineering Faculty)**

**Computer Graphics**

**(2008 Pattern) (Semester-V)**

*Time : 3 Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) Answers to the two sections should be written in separate books.
- 2) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 from section I & Q7 or Q8, Q9 or Q10, Q11 or Q12 from section II.
- 3) Neat diagrams should be drawn wherever necessary.
- 4) Figures to the right indicate full marks.
- 5) Assume suitable data, if necessary.

**SECTION - I**

- Q1)** a) Explain Bresenham's Circle drawing algorithm. [6]  
b) Explain the concept of anti aliasing and explain how it works [6]

OR

- Q2)** a) Explain the working of [6]  
i) Touch panels &  
ii) Track ball devices  
b) Differentiate between the starburst method and bitmap method in 2 column format. [6]

- Q3)** a) Explain the scan conversion algorithm of polygon filling. [6]  
b) Explain the homogeneous coordinate system & its need. [6]

OR

- Q4)** a) Explain the application of scaling and translation transformations on rectangle. [6]  
b) Explain filling of a polygon with a pattern. [6]

- Q5)** a) Explain the operations that you can do on a segment table. [5]  
b) Explain the Cohen-Sutherland algorithm for line clipping with figure. [6]

OR

- Q6)** a) Explain the image transformation on a rectangle done using segment table. [5]  
b) Explain with figure the Sutherland Hodgman algorithm algorithm. [6]

**P.T.O.**



**SECTION - II**

- Q7)** a) Explain application on a rectangle of: [6]  
i) Parallel projection  
ii) Perspective projection.  
b) Obtain the 3D transformation matrix for scaling about an arbitrary axis. [6]

OR

- Q8)** a) Describe 3D primitives. [6]  
b) Apply 3-Dimensional transformation matrices on a rectangle for: [6]  
i) Translation  
ii) Scaling

- Q9)** a) Explain warnock's algorithm for hidden surfaces. [6]  
b) Differentiate between diffuse & point-source illumination. [6]

OR

- Q10)** a) Explain painters algorithm. [6]  
b) Write short notes on: [6]  
i) Reflections.  
ii) Shading algorithms.

- Q11)** a) What are the properties of B-Spline curve? Describe the procedure to generate B-Spline curve. [6]  
b) Explain frame by frame animation. [5]

OR

- Q12)** a) What is fractal surface? Explain fractal generation in detail. [6]  
b) Explain any 2 basic primitives of GKS [5]

♦ ♦ ♦ ♦



[5156] - 53

TYMCA (Engg)

Advanced Databases

(2008 Course)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answers to the two sections should be written in separate books.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Assume suitable data, if necessary.

## SECTION - I

- Q1) a) Describe Linear Search Algorithm for selection operation. [5]  
b) Explain materialized and pipelined evaluation with suitable example. [6]

OR

- Q2) a) Explain the basic steps in query processing with suitable diagram. [5]  
b) Explain block nested loop join algorithm with its cost estimation. [6]

- Q3) a) What is need of distributed database systems? Explain advantages & disadvantages of distributed database systems. [6]  
b) Describe any two parallel database architectures in detail with suitable diagrams. [6]

OR

- Q4) a) Explain pipelined parallelism and independent parallelism with example. [6]  
b) Explain the following terms: [6]

- i) Heterogeneous Distributed Database
- ii) Replication
- iii) Fragmentation.

- Q5) a) Explain type and table inheritance with suitable example. [6]  
b) Describe array and nested table with suitable example. [6]

OR

- Q6) a) Explain object identity and reference with suitable example. [6]  
b) Explain persistent programming languages. Explain persistence in C++. [6]

P.T.O.

## SECTION - II

- Q7) a) Explain star schema for the multidimensional databases in detail with suitable diagram. [6]  
b) What is data warehouse? Explain its applications with suitable examples. [5]

OR

- Q8) a) What are the different OLAP operations? Explain any two OLAP operations with suitable diagram and example. [6]  
b) "Data warehouse support to decision support system". Justify with suitable example. [5]

- Q9) a) What do you mean by market basket analysis? Explain association rule mining and its applications in detail with suitable example. [6]  
b) What is clustering? What are different clustering techniques? Explain different applications of clustering. [6]

OR

- Q10) a) What is classification? Explain Bayesian classification with suitable example. [6]  
b) Write a note on [6]

- i) Outlier
- ii) Text Mining.

- Q11) Explain the following terms: [12]

- a) Synonym
- b) Web Crawler
- c) Precision
- d) Recall

OR

- Q12) a) Explain characteristics and architecture of web search engines. [6]  
b) Explain in detail popularity ranking. [6]

+++++

[5156]-53

2



### Third Year M.C.A. (Engineering Faculty) Software Testing

(2008 Pattern) (Semester-V) (Elective - II)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answer 3 questions from section-I and 3 questions from section-II.
- 2) Answers to the two sections should be written in separate books.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Assume suitable data if necessary.

#### SECTION-I

- Q1)** a) What is software measurement? Explain its classification in detail. [8]  
b) Explain representation theory of measurement. [4]  
OR
- Q2)** a) What is data? Explain how to collect, store and extract data. [8]  
b) Explain four principles of investigation. [4]  
OR
- Q3)** a) Explain in detail Halstead software science. [8]  
b) Differentiate time and space complexity. [3]  
OR
- Q4)** a) Explain object oriented metrics in detail. [8]  
b) Explain Goal Question Metric paradigm. [3]  
OR
- Q5)** a) What are the steps involved in preparation of test plan? Explain the steps. [8]  
b) Explain organization structure for testing teams. [4]  
OR
- Q6)** a) Explain different type of defects. What is defect repository? Also explain how defect repository provides support to developer/tester. [6]  
b) What is Test case and Test suit? Explain it in detail. [6]

P.T.O.

#### SECTION-II

- Q7)** a) Explain the need of test plan in software testing. [5]  
b) What is meant by testing defects? Explain it in detail [7]  
OR
- Q8)** a) Distinguish between White Box testing and Black box Testing. What is use of structural testing? [6]  
b) Explain different types of static analysis tools. [6]  
OR
- Q9)** a) Write short note on : [6]  
i) Validation Testing  
ii) Unit Testing
- b) What is domain testing? Explain its use. [5]  
OR
- Q10)** a) Explain the need of adhoc testing? [5]  
b) Write short note on: [6]  
i) Integration Testing  
ii) Specification based testing
- Q11)** a) What are the challenges and best practices encountered in problem resolution? [6]  
b) Explain Testing the shipment unit. [6]  
OR
- Q12)** a) Explain the different tools and repositories present in problem reporting phase. [6]  
b) Write short note on: [6]  
i) Challenges in software maintenance.  
ii) Best Practices for software maintenance.

+++++

[5156]-55



Total No. of Questions : 12]

P2374

SEAT No. :  

[Total No. of Pages : 2

[5156] - 504

T.Y.M.C.A. (Engg.)

## Data Warehousing, Data Mining, Business Intelligence (2013 Pattern) (Semester-I)

[Max. Marks : 50

Time : 3 Hours]

Instructions to the candidates:

- 1) Neat diagrams must be drawn wherever necessary.
- 2) Assume suitable data, if necessary.

- Q1) a) Why data need to be preprocessed? Illustrate with an example. [4]  
b) Explain star schema with suitable diagram. [4]

OR

- Q2) a) What is data warehouse? Explain applications of data warehouse. [4]  
b) Explain any two OLAP operations with suitable diagram and example. [4]

- Q3) a) Explain difference between descriptive & predictive data mining. [4]  
b) What are major issues with data mining? Describe in brief. [4]

OR

- Q4) a) What is data mining? Explain any two applications of data mining. [4]  
b) Explain KDD process with suitable diagram. [4]

- Q5) a) A database has five transactions. Let min\_sup=2 and min\_conf=60%. Find all frequently occurred items using Apriori algorithm. Find best rules from support and confidence values. [6]

TID	ITEM
1	shampoo, toothpaste, bread, butter
2	bread, milk, butter
3	soap, milk, toothpaste
4	shampoo, soap
5	bread, milk butter

- b) Write note on outlier. [3]

OR

- Q6) a) Explain k-means algorithm. [6]  
b) Write a note on decision tree. [3]

- Q7) a) What is business intelligence? Explain any two applications. [4]  
b) Explain ETL process in detail with suitable diagram. [5]

OR

- Q8) a) Explain various data warehouse components in brief. [4]  
b) "There are challenges to successfully implement business intelligence" Illustrate. [5]

- Q9) a) What factors need to be considered before designing data architecture? Explain in brief. [4]  
b) Explain data architecture model. Illustrate in brief. [4]

OR

- Q10) a) Explain ROLAP, MOLAP in brief. [4]  
b) What is data mart? Differentiate between data mart and data warehouse. [4]

- Q11) a) How do you evaluate business intelligence reporting tools? Give your views. [4]  
b) "Business Intelligence Reporting Tools play key role in Decision Support System". Comment on the statement. [4]

OR

- Q12) a) What is need of Business Intelligence Reporting Tools? Illustrate with example. [4]  
b) What are different Business Intelligence Reporting Tools? Explain any two in brief. [4]

+++++

P.T.O.

[5156]-504



**Principles and Practices for IT Project Management**

(2008 Course) (Semester-V) (710901)

[Max. Marks : 70]

Time : 3 Hours]

Instructions to the candidates:

- 1) Answer to the two sections should be written in separate answer books.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right side indicate full marks.
- 4) Assume suitable data if necessary.

**SECTION - I**

- Q1) a) Explain concept of management with its importance? [6]  
b) Give case study on business policy [6]

OR

- Q2) a) What is the role and importance of management? [6]  
b) What are social ethics? [3]  
c) What is business policy? [3]

- Q3) a) What are the functions of IT in management of customer relationship? [6]  
b) Write a short note on product design and development. [6]

OR

- Q4) a) What are applications of IT in project management? [6]  
b) Give case study of banking? [6]

- Q5) a) What are the risks associated with mitigation and management? [6]  
b) How to create project estimation? [5]

OR

- Q6) a) Give detail note on gantt chart? [6]  
b) How to establish project priorities? [5]

P.T.O.

**SECTION - II**

- Q7) a) How to organize an IT project for resource procurement? [6]  
b) How to track project progress and financial obligations? [6]

OR

- Q8) a) How to establish change control an IT project? [6]  
b) Give note on decision tree? [6]

- Q9) a) What are team structure and team bonding? [6]  
b) Explain [6]

- i) Stress management
- ii) Conflict management

OR

- Q10) a) Give importance of team? [6]  
b) What are the strategies for resolving destructive conflict? [6]

- Q11) a) What is the concept of learning organizations? [5]  
b) What are the different cyber laws? [6]

OR

- Q12) a) Explain in detail impact of IT quality management system? [6]  
b) Give note on six sigma? [5]

+++++

[5156]-51