



**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING  
(AUTONOMOUS)**

L.B. Reddy Nagar :: Mylavaram-521 230 :: Krishna Dist. :: A.P  
Approved by AICTE, New Delhi. Affiliated to JNTUK, Kakinada

**MCA (IV Semester) (R17) Supplementary Examinations, August - 2021**

**TIME TABLE**

**Time: 10.00AM to 01.00PM**

**A.Y. 2020-21**

Date	Course Code & Name
12-08-2021 (Thursday)	17MC17 - Cloud Computing
13-08-2021 (Friday)	17MC18 - Data Warehousing and Mining
14-08-2021 (Saturday)	17MC19 - Object Oriented Analysis and Design
16-08-2021 (Monday)	17MC20 - Web Technologies
17-08-2021 (Tuesday)	17MC21 - Cryptography and Network Security (PE-I) 17MC22 - Distributed Operating Systems (PE-I)

**Note:** Any omissions or clashes in the time table may please be informed to the Controller of Examinations immediately.

**Date: 30-07-2021**

**Copy to:** 1. Vice-Principal, Deans & HoD  
2. Transport in-charge & Librarian  
3. Canteen, Security & Hostels  
4. Notice Boards

*MB Chatterjee*  
**CONTROLLER OF EXAMINATIONS**

*9.7.21*  
**PRINCIPAL**

*8/8*  
*K. Narayana*

H.T.No

17 AUG 2021

R17

**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING  
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L.B. Reddy Nagar :: Mylavaram – 521 230 :: Krishna Dist.: A.P.

M.C.A (IV Semester) ~~Regular~~/Supplementary Examinations

**17MC22-DISTRIBUTED OPERATING SYSTEMS**

Time : 3 hours

Max. Marks : 60

Answer one question from each unit.

All questions carry equal marks

Q.No	Questions	Marks	CO	BL
1(a)	Discuss migration process in heterogeneous systems.	6M	CO1	L6
(b)	Illustrate the general organization of an internet search engine in different levels of application layering.	6M	CO1	L2
<b>(OR)</b>				
2(a)	Explain advantages of distributed system over independent PC's.	6M	CO1	L2
(b)	Differentiate between thread and a process.	6M	CO1	L4
3(a)	Outline the distributed algorithm of distributed mutual exclusion.	6M	CO2	L2
(b)	Differentiate between logical and physical clocks.	6M	CO2	L4
<b>(OR)</b>				
4(a)	Explain different distributed clock synchronization algorithms.	6M	CO2	L2
(b)	Compare recursive name resolution with iterative name resolution.	6M	CO2	L5
5(a)	Discuss about coordination and agreement in group communication.	6M	CO3	L6
(b)	Compare permanent, server-initiated, client-initiated replicas.	6M	CO3	L5
<b>(OR)</b>				
6(a)	Elaborate different distributed protocols.	6M	CO3	L6
(b)	How do you deal with last request messages in reliable client-server communication? Discuss.	6M	CO3	L1
7(a)	Discuss basic architecture of sun network file system.	6M	CO4	L6
(b)	List the pros and cons of distributed shared memory.	6M	CO4	L1
<b>(OR)</b>				
8(a)	Compare different distributed file systems.	6M	CO4	L5
(b)	Outline bus-based multiprocessors architecture for DSM.	6M	CO4	L2
9(a)	List and explain the services provided by CORBA.	6M	CO5	L1
(b)	Illustrate the architectural view of WWW.	6M	CO5	L2
<b>(OR)</b>				
10(a)	Compare the services provided by GLOBE with CORBA, DCOM.	6M	CO5	L5
(b)	Demonstrate how the communication takes place in WWW.	6M	CO5	L3

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16 AUG 2021

H.T.No

R17

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M.C.A (IV Semester) ~~Regular~~ / Supplementary Examinations

**17MC20-WEB TECHNOLOGIES**

Time : 3 hours

Max. Marks : 60

Answer one question from each unit.

All questions carry equal marks

Q.No	Questions	Marks	CO	BL
1(a)	Write a HTML program for class timetable using TABLE tag.	6M	CO1	L3
(b)	Explain about the below tags with its attributes (i) Marquee (ii) Anchor (iii) Font.	6M	CO1	L2
<b>(OR)</b>				
2(a)	Write a JavaScript Program for below validations. (i) Username Limit (8-30) (ii) Username and Password cannot be empty.	6M	CO2	L3
(b)	Write a brief note on JavaScript and explain different Functions of JavaScript.	6M	CO2	L2
3(a)	Explain different types of Stylesheets with an example.	6M	CO1	L2
(b)	Write a short note on Event Model with an example.	6M	CO1	L2
<b>(OR)</b>				
4(a)	What is XML? Explain different advantages of XML.	6M	CO1	L2
(b)	Write a brief note on XML Scheme with an Example.	6M	CO1	L2
5(a)	Write a JDBC Program to delete a student record where student name is "Kiran".	6M	CO5	L3
(b)	What is JDBC Driver? Explain Type 1 Driver (JDBC-ODBC Driver) with an example.	6M	CO2	L2
<b>(OR)</b>				
6.	Explain JavaBeans API with an example.	12M	CO3	L2
7(a)	What is Servlet? Explain Servlet life cycle methods with an example.	6M	CO3	L3
(b)	Explain Servlet Cookies with an example.	6M	CO3	L3
<b>(OR)</b>				
8.	Write a brief note on (i) Web Browser (ii) Web Page (iii) Web Server (iv) Web Container (v) Deployment Descriptor (vi) Hyper Text Transfer Protocol.	12M	CO4	L2
9(a)	Write the differences between Servlets and JSP.	6M	CO3	L2
(b)	Write a JSP to insert employee details using JDBC (Table: EmployeeDetails (Eid, Ename, Designation, Salary, Department)).	6M	CO3	L3
<b>(OR)</b>				
10(a)	Explain Session management with JSP with an example.	6M	CO3	L2
(b)	Write a short note on Struts Framework.	6M	CO3	L2

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13 AUG 2021

H.T.No

R17

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M.C.A (IV Semester) ~~Regular~~ / Supplementary Examinations

**17MC18-DATA WAREHOUSING AND MINING**

Time : 3 hours

Max. Marks : 60

Answer one question from each unit.

All questions carry equal marks

Q.No	Questions	Marks	CO	BL																				
1(a)	"Data warehouse is different from database" Justify.	6M	CO1	L5																				
(b)	List and explain the applications of data mining.	6M	CO1	L1																				
(OR)																								
2(a)	Analyze the three challenges to data mining regarding data mining methodology and user interaction issues.	6M	CO1	L4																				
(b)	Distinguish between no coupling, loose coupling, semi- tight coupling and tight coupling.	6M	CO1	L4																				
3(a)	Illustrate the methods for handling tuples with missing values for some attributes.	6M	CO2	L2																				
(b)	Suppose that the data for analysis includes the attribute age. The age values for the data tuples are (in increasing order) 13, 15, 16, 16, 19, 20, 20, 21, 22, 22, 25, 25, 25, 25, 30, 33, 33, 35, 35, 35, 35, 36, 40, 45,46, 52, 70. (i) What is the mean of the data? (ii) What is the mode of the data? (iii) What is the midrange of the data?	6M	CO2	L6																				
(OR)																								
4(a)	Normalize the following group of data using min-max normalization by setting min=0 and max=1: 200, 300, 400, 600, 1000.	6M	CO2	L6																				
(b)	What is the value ranges of the following normalization methods? (i) min-max normalization (ii) z-score normalization.	6M	CO2	L1																				
5(a)	Construct fp-tree for the following transactional data base. <table><tr><th>TID</th><th>List of item IDs</th></tr><tr><td>T100</td><td>I1, I2, I5</td></tr><tr><td>T200</td><td>I2, I4</td></tr><tr><td>T300</td><td>I2, I3</td></tr><tr><td>T400</td><td>I1, I2, I4</td></tr><tr><td>T500</td><td>I1, I3</td></tr><tr><td>T600</td><td>I2, I3</td></tr><tr><td>T700</td><td>I1, I3</td></tr><tr><td>T800</td><td>I1, I2, I3, I5</td></tr><tr><td>T900</td><td>I1, I2, I3</td></tr></table>	TID	List of item IDs	T100	I1, I2, I5	T200	I2, I4	T300	I2, I3	T400	I1, I2, I4	T500	I1, I3	T600	I2, I3	T700	I1, I3	T800	I1, I2, I3, I5	T900	I1, I2, I3	6M	CO3	L6
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# 17MC18-DATA WAREHOUSING AND MINING

(b)	Create frequent item sets for the following transactional data base using apriori algorithm. <table><tr><th>TID</th><th>List of item IDs</th></tr><tr><td>T100</td><td>I1, I2, I5</td></tr><tr><td>T200</td><td>I2, I4</td></tr><tr><td>T300</td><td>I2, I3</td></tr><tr><td>T400</td><td>I1, I2, I4</td></tr><tr><td>T500</td><td>I1, I3</td></tr><tr><td>T600</td><td>I2, I3</td></tr><tr><td>T700</td><td>I1, I3</td></tr><tr><td>T800</td><td>I1, I2, I3, I5</td></tr><tr><td>T900</td><td>I1, I2, I3</td></tr></table>	TID	List of item IDs	T100	I1, I2, I5	T200	I2, I4	T300	I2, I3	T400	I1, I2, I4	T500	I1, I3	T600	I2, I3	T700	I1, I3	T800	I1, I2, I3, I5	T900	I1, I2, I3	6M	CO3	L6
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(OR)																																																																																																																				
6(a)	Define the term 'Prediction' and explain different methods of Prediction.	6M	CO3	L1																																																																																																																
(b)	A database has five transactions. Let  $\min \text{sup} = 60\%$  and  $\min \text{conf} = 80\%$ . Create all frequent itemsets using Apriori and FP-growth, respectively. Compare the efficiency of the two mining processes.	TID	items_bought		------	--------------------		T100	{M, O, N, K, E, Y}		T200	{D, O, N, K, E, Y}		T300	{M, A, K, E}		T400	{M, U, C, K, Y}		T500	{C, O, O, K, I, E}		6M	CO3	L6																																																																																											
7(a)	Predict the class label of given data tuple using naïve Bayesian classification.  $X = (\text{age} = \text{youth}, \text{income} = \text{medium}, \text{student} = \text{yes}, \text{credit rating} = \text{fair})$  The training data are shown in the following table. Class-labeled training tuples from the AllElectronics customer database.	RID	age	income	student	credit_rating	Class: buys_computer		-----	-------------	--------	---------	---------------	----------------------		1	youth	high	no	fair	no		2	youth	high	no	excellent	no		3	middle_aged	high	no	fair	yes		4	senior	medium	no	fair	yes		5	senior	low	yes	fair	yes		6	senior	low	yes	excellent	no		7	middle_aged	low	yes	excellent	yes		8	youth	medium	no	fair	no		9	youth	low	yes	fair	yes		10	senior	medium	yes	fair	yes		11	youth	medium	yes	excellent	yes		12	middle_aged	medium	no	excellent	yes		13	middle_aged	high	yes	fair	yes		14	senior	medium	no	excellent	no		6M	CO4	L6

## 17MC18-DATA WAREHOUSING AND MINING

(b)	Distinguish between classification and prediction.	6M	CO4	L4																										
(OR)																														
8(a)	<p>Predict the salary of a college graduate student with 10 years of experience using linear regression from the following Salary table.</p> <p>Salary data.</p> <table><tr><th><math>x</math> years experience</th><th><math>y</math> salary (in \$1000s)</th></tr><tr><td>3</td><td>30</td></tr><tr><td>8</td><td>57</td></tr><tr><td>9</td><td>64</td></tr><tr><td>13</td><td>72</td></tr><tr><td>3</td><td>36</td></tr><tr><td>6</td><td>43</td></tr><tr><td>11</td><td>59</td></tr><tr><td>21</td><td>90</td></tr><tr><td>1</td><td>20</td></tr><tr><td>16</td><td>83</td></tr></table>	$x$ years experience	$y$ salary (in \$1000s)	3	30	8	57	9	64	13	72	3	36	6	43	11	59	21	90	1	20	16	83	6M	CO4	L6				
$x$ years experience	$y$ salary (in \$1000s)																													
3	30																													
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9	64																													
13	72																													
3	36																													
6	43																													
11	59																													
21	90																													
1	20																													
16	83																													
(b)	<p>Predict the final exam grade of a student who received 86 marks on the midterm exam.</p> <table><tr><th><math>x</math> Midterm exam</th><th><math>y</math> Final exam</th></tr><tr><td>72</td><td>84</td></tr><tr><td>50</td><td>63</td></tr><tr><td>81</td><td>77</td></tr><tr><td>74</td><td>78</td></tr><tr><td>94</td><td>90</td></tr><tr><td>86</td><td>75</td></tr><tr><td>59</td><td>49</td></tr><tr><td>83</td><td>79</td></tr><tr><td>65</td><td>77</td></tr><tr><td>33</td><td>52</td></tr><tr><td>88</td><td>74</td></tr><tr><td>81</td><td>90</td></tr></table>	$x$ Midterm exam	$y$ Final exam	72	84	50	63	81	77	74	78	94	90	86	75	59	49	83	79	65	77	33	52	88	74	81	90	6M	CO4	L6
$x$ Midterm exam	$y$ Final exam																													
72	84																													
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33	52																													
88	74																													
81	90																													
9(a)	<p>Given two objects represented by the tuples (22,1,2,10) and (20, 0, 36, 8):</p> <p>(i) Compute the Euclidean distance between the two objects.</p> <p>(ii) Compute the Manhattan distance between the two objects.</p> <p>(iii) Compute the Minkowski distance between the two objects, using <math>p = 3</math>.</p>	6M	CO5	L3																										
(b)	<p>Analyze each of the clustering algorithms <math>k</math>-means, <math>k</math>-medoids, CLARA in terms of the following criteria:</p> <p>(i) shapes of clusters that can be determined (ii) input parameters that must be specified (iii) limitations.</p>	6M	CO5	L4																										
(OR)																														
10(a)	<p>Given the following measurements for the variable age:18; 22; 25; 42; 28; 43; 33; 35; 56; 28; standardize the variable by the following:</p> <p>(i) Compute the mean absolute deviation of age.</p> <p>(ii)Compute the z-score for the first four measurements.</p>	6M	CO5	L3																										
(b)	<p>Outline how to compute the dissimilarity between objects described by the following types of variables:</p> <p>i) Interval-scaled variables ii) Asymmetric binary variables iii) Categorical variables.</p>	6M	CO5	L2																										



