

# **ALAGAPPA UNIVERSITY**

[Accredited with 'A+' Grade by NAAC (CGPA:3.64) in the Third Cycle and Graded as  
Category-I University by MHRD-UGC]  
(A State University Established by the Government of Tamil Nadu)

**Karaikudi. 630003.**

## **Directorate of Distance Education**

### **CONTINUOUS INTERNAL ASSESMENT ( CIA )**

### **ASSIGNMENT QUESTIONS**



<b>PROGRAMME CODE</b>	
<b>M.C.A - 315</b>	<b>M.C.A (LE) 340</b>

## **Master of Computer Applications (M.C.A)**

**2019 -2020**



**ALAGAPPA UNIVERSITY, KARAİKUDI**  
**DIRECTORATE OF DISTANCE EDUCATION**  
 CONTINUOUS INTERNAL ASSESSMENT (CIA)  
 ASSIGNMENT QUESTIONS - (2018-2019 Academic Year to 2020 Calendar Year)  
 Learning Centre: Karaikudi (100)



Programme code	Programme Name	Semester
315	MASTER OF COMPUTER APPLICATIONS (M.C.A)	I

**Instructions**

- *Assignments should be written in the candidate's own handwriting in the A4 sheets on only one side of the paper.*
- *Combine all subject assignments into single spiral binding for submission.*
- *Maximum. Marks. 25 for each Course (Theory and Practical).*
- *Model Practical Test will be conducted during PCP schedule for Practical courses every semester.*

The list of assignment topics for each course is furnished below:

<b>Course.Code: 31511</b>	<b>Digital Computer Organization</b>
<ol style="list-style-type: none"> <li>1. Discuss the fundamentals concepts and laws of Boolean Algebra.</li> <li>2. Draw the logic diagram of Half adder.</li> <li>3. Discuss about Sum of Products (SOP) and Products of Sum (POS).</li> <li>4. Explain about different types of Instructions (Memory reference, I/O interrupts)</li> </ol>	

<b>Course.Code: 31512</b>	<b>Object Oriented Programming and C++</b>
<ol style="list-style-type: none"> <li>1. Discuss the basic concepts of Object-oriented programming.</li> <li>2. Explain about function overloading or operator overloading.</li> <li>3. Write note on : Class templates.</li> <li>4. Define: Constructor.</li> </ol>	

<b>Course.Code: 31513</b>	<b>Data Structures and Algorithms</b>
<ol style="list-style-type: none"> <li>1. Define: Data Structure.</li> <li>2. Briefly explain about searching of elements using Linear Search Technique</li> <li>3. Explain about soring of numbers using Bubble sort algorithm.</li> <li>4. Discuss in detail about implementation of queue or stack with example.</li> </ol>	

<b>Course.Code: 31514</b>	<b>Data Structures using C++ Lab</b>
<b>Write Aim, Algorithm, Source code, Input and Output;</b>	
<ol style="list-style-type: none"> <li>1. Write a C++ program to check given string is palindrome or not?</li> <li>2. Write a C++ program to implement the operations of stack.</li> <li>3. Write a C++ program to sort N given numbers using Bubble sort.</li> </ol>	

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Programme code	Programme Name	Semester
315	MASTER OF COMPUTER APPLICATIONS (M.C.A)	II

**Instructions**

- **Assignments should be written in the candidate's own handwriting in the A4 sheets on only one side of the paper.**
- **Combine all subject assignments into single spiral binding for submission.**
- **Maximum. Marks. 25 for each Course (Theory and Practical).**
- **Model Practical Test will be conducted during PCP schedule for Practical courses every semester.**

**The list of topics for assignment for each course is furnished below:**

Course.Code: 31521	Software Engineering
1. Explain about the water fall model with neat diagram 2. Briefly explain about scenario-based modeling and class-based modelling. 3. What are the approaches for software testing? Explain.	

Course.Code:31522	Relational Database Management System
1. With neat diagram explain the architecture of DBMS. 2. Discuss in detail about various forms of normalization. 3. Explain about various Data Manipulation Language(DML) Statements with examples.	

Course.Code:31523	Computer Graphics
1. Discuss in detail about DDA Line drawing Algorithm 2. Explain about 2D basic transformation with neat diagram. 3. Describe about Back face detection techniques	

Course.Code: 31524	RDBMS Lab
<b>Write aim, algorithm, Source code, Input and Output;</b>  1) Create <i>address</i> table to represent customer of a shop and perform the following; <i>address(name, age, sex, street, city, pincode)</i> <ul style="list-style-type: none"> <li>• Insert 5 Records.</li> <li>• Write SQL query to display the fields name and street.</li> <li>• Write SQL query to <i>create view adressview</i> for the records for AGE &gt; 20</li> <li>• Write SQL query to display the records for age &gt; 20 AND city = 'KARAİKUDI'</li> <li>• Write SQL query to SORT the table in the ascending order of <i>name</i>.</li> </ul>	



2) (a) Create table *student* with the following fields;

*student(regno,name,mark1,mark2,mark3,total,result)*

- Write SQL query to insert 5 records
- Write SQL query to calculate total = mark1+mark2+mark3
- Write SQL query to update result field with 'PASS' if total >= 150 otherwise 'FAIL'

(b) Design and develop an application using PL/SQL for student mark processing.

3) Create table *blooddonar* with the following fields;

*blooddonar(dno,dname,date\_of\_birth,age,addr1,addr2,city,pin,sex,bgroup)*

- i) Insert 5 Records.
- ii) Write SQL query to display all the records.
- iii) Write SQL query to display the information of donors in the age group 20 to 25 using BETWEEN option.
- iv) Write SQL query to display the information of donors having *date\_of\_birth* BETWEEN 01-JAN-19 and 31-DEC-19.



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Programme code	Programme Name	Semester
315	MASTER OF COMPUTER APPLICATIONS (M.C.A)	III
340	MASTER OF COMPUTER APPLICATIONS (M.C.A) LE	

**Instructions**

- *Assignments should be written in the candidate's own handwriting in the A4 sheets on only one side of the paper.*
- *Combine all subject assignments into single spiral binding for submission.*
- *Maximum. Marks. 25 for each Course (Theory and Practical).*
- *Model Practical Test will be conducted during PCP schedule for Practical courses every semester.*

The list of assignment topics for each course is furnished below:

<b>Course.Code: 31531</b>	<b>Discrete Mathematics</b>
<ol style="list-style-type: none"> <li>1. Verify whether <math>(P \vee Q) \rightarrow</math> is a tautology</li> <li>2. Prove that for any three sets A,B,C;  <math>A \cap (B - C) = (A \cap B) - (A \cap C)</math></li> <li>3. Define Graph, Degree of vertex, subgraphs with examples.</li> </ol>	

<b>Course.Code: 31532</b>	<b>Operating System</b>
<ol style="list-style-type: none"> <li>1. What is Deadlock? Explain the dead lock avoidance with Banker's algorithm.</li> <li>2. Briefly explain about Priority scheduling.</li> <li>3. Explain about Round Robin Scheduling algorithm.</li> </ol>	

<b>Course.Code: 31533</b>	<b>Object Oriented Analysis and Design</b>
<ol style="list-style-type: none"> <li>1. Discuss the relationship about sequence diagram and class diagram.</li> <li>2. Explain in detail about Jacobson methodology.</li> <li>3. Write short note on: Object Oriented testing.</li> </ol>	

<b>Course.Code: 315134</b>	<b>Operating System Lab</b>
<p><i>Write Aim, Algorithm, Source code, Input, output and result;</i></p> <ol style="list-style-type: none"> <li>1. Write a Shell script to find factorial of a given integer?</li> <li>2. Write and execute File and Directory Related commands in Unix.</li> </ol>	

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Programme code	Programme Name	Semester
315	MASTER OF COMPUTER APPLICATIONS (M.C.A)	IV
340	MASTER OF COMPUTER APPLICATIONS (M.C.A) LE	

**Instructions**

*Assignments should be written in the candidate's own handwriting in the A4 white sheets on only one side of the paper.*

- *Combine all subject assignments of this semester into single spiral binding for submission.*
- *Maximum. Marks. 25 for each Course (Theory and Practical).*
- *Model Practical Test will be conducted during PCP schedule for Practical courses every semester.*

The list of assignment topics for each course is furnished below:

Course Code: MCA - 31541 MCA(LE) - 34041	Accounting and Financial Management
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- 1) *From the following Trial Balance of Shri - Atul Sheth prepare Trading and Profit and Loss A/c for the year ended 31<sup>st</sup> March, 2010 and a Balance Sheet on that date.*

**Trial Balance as on 31<sup>st</sup> March, 2010**

Particulars	Dr. Rs.	Cr. Rs.
Machinery	90,000	
Building	50,000	
Stock (01-04-09)	10,200	
Purchases	80,800	
Wages & Salaries	17,000	
Carriage Outwards	3,000	
Sundry Debtors	50,000	
General expenses	9,100	
Rent	1,700	
Bad Debts	650	
Income Tax	600	
Legal Charges	800	
Atul Sheth's Drawing	18,000	
Cash In hand	24,000	
Cash at bank	18,000	
Atul Sheth's Capital		1,20,200
Sundry Creditors		18,000
Bills Payable		23,000
Returns Outwards		1,800
Interest		3,300
Sales		2,07,550
	<b>3,73,850</b>	<b>3,73,850</b>



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**Adjustments :-**

The following adjustments should be taken into consideration: -

- a. Stock on 31<sup>st</sup> March, 2010 was Rs.70,000/- valued at cost and market price Rs.82,000/-.
- b. Depreciate Machinery at 10% and building @ 5%.
- c. Rent Outstanding Rs.800/-.

2) The following are summarized Profit and Loss Account for the year ending 31<sup>st</sup> March, 2005 and the Balance Sheet as on that date of A Ltd.

**Profit & Loss Account**

Dr.		Cr.	
Particulars	Rs.	Particulars	Rs.
To Opening Stock	10,000	By Sales	1,00,000
To Purchases	55,000	By Closing Stock	15,000
To Gross Profit	50,000		
	1,15,000		1,15,000
To Administrative Expenses	15,000	By Gross Profit	50,000
To Interest	3,000		
To Selling Expenses	12,000		
To Net Profit	20,000		
	50,000		50,000

**Balance Sheet**

Liabilities	Rs.	Assets	Rs.
Share Capital (Rs.10/- each)	1,00,000	Land & Building	50,000
Profit & Loss Account	20,000	Plant & Machinery	30,000
Creditors	25,000	Stock	15,000
Bills Payable	15,000	Debtors	15,000
		Bills Receivable	12,500
		Cash & Bank	17,500
		Furniture	20,000
	1,60,000		1,60,000

Average Debtors Rs.12,500/-  
 Credit Purchases Rs.40,000/-  
 Credit Sales Rs.80,000/-



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**Calculate –**

- |                                 |                                      |
|---------------------------------|--------------------------------------|
| (i) Stock Turnover Ratio        | (ii) Debtor's turnover ratio,        |
| (iii) Creditors turnover ratio, | (iv) Working Capital turnover ratio, |
| (v) Sales to Capital employed   | (vi) Return on shareholders' funds,  |
| (vii) Gross Profit Ratio,       | (viii) Net Profit ratio,             |
| (ix) EPS,                       | (x) Operating ratio.                 |

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<b>Course Code: MCA-31542 / MCA(LE) - 34042</b>	<b>Communication Skills</b>
<ol style="list-style-type: none"> <li>Briefly explain about communication process.</li> <li>Elucidate about various types of communication.</li> <li>How will you prepare a resume? What are its types? What are its contents? Explain.</li> <li>Write short note on: Group Communication.</li> </ol>	

<b>Course Code: MCA-31543 / MCA(LE) - 34043</b>	<b>Internet and Java Programming</b>
<ol style="list-style-type: none"> <li>Define Applet.</li> <li>Name any two web browsers.</li> <li>How will you define and access package in java? Explain</li> <li>Define thread. Discuss about multithreading with suitable example.</li> <li>Explain in detail about any two types of inheritance with suitable example.</li> </ol>	

<b>Course Code: MCA-31544 / MCA(LE) - 34044</b>	<b>Internet and Java Programming Lab</b>
<p><b>Write aim, algorithm, Source code, Input and Output;</b></p> <ol style="list-style-type: none"> <li>Write a java program to display IP address and host name of the localhost.</li> <li>Write a java program to create a thread by extending the thread class.</li> <li>Write a java applet program to draw 3D rectangle and square.</li> </ol>	

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**ASSIGNMENT QUESTIONS**  
**(2018-2019 Academic Year Onwards)**



Programme code	Programme Name	Semester
315	MASTER OF COMPUTER APPLICATIONS (M.C.A)	V
340	MASTER OF COMPUTER APPLICATIONS (M.C.A)(LE)	

- *Assignments should be written by the candidate's own handwriting in the A4 white sheets on only one side of the paper.*
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The list of assignment topics for each course is furnished below:

<b>Course Code: MCA -31551 / MCA(LE) - 34051</b>	<b>Computer Networks</b>
<ol style="list-style-type: none"> <li>1. Explain various components computer networks.</li> <li>2. Discuss about the network topology with neat diagrams.</li> <li>3. Explain about the working method of OSI reference model with neat sketch.</li> </ol>	

<b>Course Code: MCA -31552 / MCA(LE) - 34052</b>	<b>Data Mining and Warehousing</b>
<ol style="list-style-type: none"> <li>1. Define Data Warehousing</li> <li>2. Explain the life cycle of data mining with neat diagram.</li> <li>2. Briefly explain about Apriori algorithm.</li> <li>3. Discuss about Bayesian classification algorithm.</li> </ol>	

<b>Course Code: MCA -31553 / MCA(LE) - 34053</b>	<b>Visual Programming with .NET</b>
<ol style="list-style-type: none"> <li>1. Explain the different types of branching statements and loops along with their syntax.</li> <li>2. Write the syntax for creating class.</li> <li>3. Explain how you will create an event and delegate.</li> </ol>	

<b>Course Code: MCA -31554 / MCA(LE) - 34054</b>	<b>VB•NET Lab</b>
<p><b>Write an Aim, algorithm, Source code, Input and Output;</b></p> <ol style="list-style-type: none"> <li>1. Write a VB.NET program to generate the factorial of a given number.</li> <li>2. Write a VB.NET program to create an Advertisement using Ad rotator.</li> <li>3. Implement a program that display the difference between two dates.</li> </ol>	

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Programme code	Programme Name	Semester
315	MASTER OF COMPUTER APPLICATIONS (M.C.A)	VI

**Instructions**

- *Assignments should be written in the candidate's own handwriting in the A4 white sheets on only one side of the paper.*
- *Combine all course assignments of this semester into single spiral binding for submission.*
- *Maximum. Marks. 25 for each Course (Theory and Practical).*
- *Model Practical Test will be conducted during PCP schedule for Practical courses every semester.*

The list of assignment topics for each course is furnished below:

Course.Code: 31561	Cloud Computing
1. What is cloud computing? What are the advantages and disadvantages of cloud computing? 2. Briefly explain about various types of cloud service deployment. 3. Discuss about Collaborating on Group Projects and Events.	

Course.Code: 31562	Soft Computing
1. Briefly explain about back propagation neural network. 2. Write short note on : Fuzzy Inference System 3. Discuss in detail about Genetic Algorithm.	

Course.Code: 31563	Big Data Analytics
1. Write short note on : Hadoop Eco system. 2. What is Map Reduce? Explain about nearest neighbour search. 3. Briefly explain about page ranking.	

Course.Code: 31564	Mini Project
<p><i>Prepare and submit your mini project abstract contains latest project title, aim, objectives, existing system, proposed new system etc.. under the guidance and approval of your guide allotted by using cutting-edge technologies.</i></p>	

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