

**INTERNAL ASSIGNMENT QUESTIONS  
M.C.A. IV SEMESTER**

**2025**



**PROF. G. RAM REDDY CENTRE FOR DISTANCE EDUCATION**

(RECOGNISED BY THE DISTANCE EDUCATION BUREAU, UGC, NEW DELHI)

**OSMANIA UNIVERSITY**

(A University with Potential for Excellence and Re-Accredited by NAAC with "A" + Grade)

**DIRECTOR**

**Prof. G.B. Reddy**

**Hyderabad – 7, Telangana State**

**PROF.G.RAM REDDY CENTRE FOR DISTANCE EDUCATION  
OSMANIA UNIVERSITY, HYDERABAD – 500 007**

Dear Students,

Every student of M.C.A. Semester IV has to write and submit **Assignment** for each paper compulsorily. Each assignment carries **30 marks**. The marks awarded to the students will be forwarded to the Examination Branch, OU for inclusion in the marks memo. If the student fail to submit Internal Assignments before the stipulated date, the internal marks will not be added in the final marks memo under any circumstances. The assignments will not be accepted after the stipulated date. **Candidates should submit assignments only in the academic year in which the examination fee is paid for the examination for the first time.**

Candidates are required to submit the Exam fee receipt along with the assignment answers scripts at the concerned counter on or before **05.03.2025** and obtain proper submission receipt.

**ASSIGNMENT WITHOUT EXAMINATION FEE PAYMENT RECEIPT (ONLINE) WILL NOT BE ACCEPTED**

**Assignments on Printed / Photocopy / Typed will not be accepted and will not be valued at any cost. Only HAND WRITTEN ASSIGNMENTS will be accepted and valued.**

**Methodology for writing the Assignments (Instructions) :**

1. First read the subject matter in the course material that is supplied to you.
2. If possible read the subject matter in the books suggested for further reading.
3. You are welcome to use the PGRRCDE Library on all working days for collecting information on the topic of your assignments. (10.30 am to 5.00 pm).
4. Give a final reading to the answer you have written and see whether you can delete unimportant or repetitive words.
5. The cover page of the each theory assignments must have information as given in **FORMAT** below.

**FORMAT**

1. NAME OF THE STUDENT :
2. ENROLLMENT NUMBER :
3. NAME OF THE COURSE :
4. SEMESTER ( I, II, III & IV) :
5. TITLE OF THE PAPER :
6. DATE OF SUBMISSION :
6. Write the above said details clearly on every subject assignments paper, otherwise your paper will not be valued.
7. Tag all the assignments paper wise and submit them in the concerned counter.
8. Submit the assignments on or before **05.03.2025** at the concerned counter at PGRRCDE, OU on any working day and obtain receipt.

**DIRECTOR**

# **INTERNAL ASSIGNMENT – 2025**

## **MCA SEMESTER - IV**

### **PAPER – PEC411 : BLOCK CHAIN TECHNOLOGIES**

#### **ASSIGNMENT - I**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. What is Cryptographic hash Function and describe its three properties in detail.
2. Explain about the Elliptic Curve Digital Signature Algorithm (ECDSA).
3. Write detail about the Distributed Consensus.
4. Explain the applications of Bit coin Scripts.
5. List out the tasks of Bit coin and describe each.

#### **ASSIGNMENT - II**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. Write in detail about the Hash Pointers and Data Structures.
2. What is Simple Crypto Currency ? Explain.
3. Write in detail about the Bit Coin Blocks.
4. Write about the Currency Exchange Market.
5. Describe the applications of Block chain technologies.

# **INTERNAL ASSIGNMENT – 2025**

## **MCA SEMESTER - IV**

### **PAPER – PE - 412 : DEEP LEARNING**

#### **ASSIGNMENT - I**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. (a) Explain linear regression and forward propagation.  
(b) Write brief on optimization algorithms.
2. Discuss about Convolutional Neural Networks.
3. Give the overview of Recurrent Neural Networks.
4. Explain attention mechanisms briefly.
5. Give a brief note on generative adversarial networks.

#### **ASSIGNMENT - II**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. What is computer vision ? Explain about the object detection and bounding boxes.
2. List and explain tools for Deep Learning.
3. What are Residual Networks (Resnet) and Generative Adversarial Networks ? Explain their applications.
4. Give a brief note on deep learning computation techniques.
5. Explain Bi-directional Recurrent Neural Networks.

# **INTERNAL ASSIGNMENT – 2025**

## **MCA SEMESTER - IV**

### **PAPER – PEC421 : DIGITAL FORENSICS**

#### **ASSIGNMENT - I**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. Define the Digital forensics and different types of digital forensics used in a digital forensic investigation.
2. What is the process flow for conducting a Digital Forensics Investigation ? Provide examples for each process step.
3. Explain the procedure for corporate High-Tech investigations and how we recover the digital evidence and give one example of Corporate High tech digital forensic investigation.
4. Explain the data recovery and its methods for recovering the data from work station, mobile and cloud.
5. Explain the digital storage formats as part of the data acquisition.

#### **ASSIGNMENT - II**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. What are the steps in Data acquisition and different storage formats of digital evidence ? Briefly explain on how to perform RAID data acquisition.
2. How do you process the digital / cyber crimes and explain the mobile crime incident management ?
3. List out the latest software and hardware cyber forensics tools and describe each tool's usage in cyber investigation.
4. Explain what digital hash and its significance in digital forensics and tools for the hash generation.
5. Detail the email investigation techniques.

# **INTERNAL ASSIGNMENT – 2025**

## **MCA SEMESTER - IV**

### **PAPER – PEC – 422 : OPTIMISATION TECHNIQUES**

#### **ASSIGNMENT - I**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. Enumerate the Difference between the classical and advanced techniques in detail.
2. Discuss the constraint and constraint surface.
3. Explain the Global Optimum Convexity and Concavity of functions in detail.
4. Explain the optimization function with one variable and two variables in detail.
5. Give the examples of Kuhn-Tucker conditions.

#### **ASSIGNMENT - II**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. Write down the examples of multistage decision problems.
2. Write down the examples of forward and backward recursion with an example?
3. Explain the concept of cutting plan method with an example.
4. Write down the examples for optimal geometric layout of a truss water allocation method.
5. Give the examples for Direct and indirect search examples in weighted and constrained methods.

# **INTERNAL ASSIGNMENT – 2025**

## **MCA SEMESTER - IV**

### **PAPER – OE-431 : CONSTITUTION OF INDIA**

#### **ASSIGNMENT - I**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. Explain the Salient Features of Indian Constitution.
2. Discuss the importance of Preamble. Whether it is a part of the Indian Constitution.
3. Examine the Fundamental Rights guaranteed under the Constitution of India and procedure for their enforcement.
4. Who can be appointed as a President and what is his role in Indian Democracy? Explain the procedure for impeachment of President.
5. Distinguish between the composition, term and role of Lok Sabha and Rajya Sabha.

#### **ASSIGNMENT - II**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. Examine the significance of Election Commission in conduct of free and fair elections.
2. What is Panchayat System? Explain with applicable constitutional provisions.
3. Explain the role of Chief Minister and Council of Ministers in a State. Examine their powers and liabilities under the Indian constitution.
4. Discuss the role and functions of Governor under the Indian Constitution.
5. Who can be appointed as Chief Election Commissioner? Explain his powers and functions.

# **INTERNAL ASSIGNMENT – 2025**

## **MCA SEMESTER - IV**

**PAPER – VI      OE – 432 : ORGANISATION BEHAVIOUR**

### **ASSIGNMENT - I**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. Explain the Parkinson's Law.
2. Write a note on Centralisation, Decentralisation and Recentralisation.
3. Analyse the Maslow's theory of Motivation.
4. What is Group Dynamics ? Explain.
5. Differentiate Organisation culture and Organisation climate.

### **ASSIGNMENT - II**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. Explain four parts of Hawthorne experiments.
2. Explain rational behavior of Decision making.
3. Discuss Big 5 personality traits of employee in any business organization.
4. Analyse Johari window model of Organisation Behaviour.
5. Write a note on stress management.



# **INTERNAL ASSIGNMENT – 2025**

## **MCA SEMESTER - IV**

### **PAPER – OE 433 : INTELLECTUAL PROPERTY AND CYBER LAW**

#### **ASSIGNMENT - I**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. Elaborate types of IP Rights in India.
2. Write a brief note on TRIPS Agreement.
3. Write remedies for infringement of copyright with 4 notable cases.
4. Explain in detail on types of Trademarks.
5. Write a detail note on patent search and Registration of Patent.

#### **ASSIGNMENT - II**

**Answer the following Questions. (each question carries three marks) 5X3=15**

1. Write about IT Act and its relevance to Cyberlaw.
2. Write about copyright Act and its relevance to IPR.
3. Explain shortly a) Digital payments b) e-commerce and its security .
4. Explain types of cybercrimes with examples.
5. Illustrate a recent case law related to IPR in India.