

# NALANDA OPEN UNIVERSITY

Assignment Questions  
[for Annual Examination, 2020]

## MCA, PART-II

### सत्रीय कार्य जमा करने की विधि

नालन्दा खुला विश्वविद्यालय के विद्यार्थियों के लिए, निर्धारित प्रोग्राम्स में, सत्रीय कार्य जमा करना आवश्यक है। इसके लिये प्रत्येक पत्र में सम्बन्धित विद्यार्थी को तीन प्रश्न (प्रत्येक प्रश्न 10-10 अंकों के) दिये गये हैं, जिनमें से दो प्रश्नों (कुल 20 अंक) का उत्तर अपने हस्तलिपि में विश्वविद्यालय द्वारा दी हुई सत्रीय कार्य उत्तरपुस्तिका में लिखना है। विद्यार्थियों से आग्रह है कि वे प्रत्येक पत्र के लिये दिये गये, निर्देश के अनुसार, स्वअध्ययन, स्वविवेक और अपनी प्रतिभा के अनुसार दो प्रश्नों का उत्तर अपने हस्तलिपि में लिखें। यह कार्य उन्हें अपने घर में रहकर करना है। किसी भी पुस्तक या नालन्दा खुला विश्वविद्यालय द्वारा दी गयी पाठ्यसामग्री से नकल करने पर उनकी उत्तरपुस्तिका का मूल्यांकन नहीं किया जायेगा। साथ ही, नियमानुसार, विश्वविद्यालय उनके विरुद्ध अलग से भी सख्त कार्यवाही कर सकेगा। विद्यार्थियों से अनुरोध है कि सत्रीय कार्य की उत्तरपुस्तिका तथा उसके लिफाफा पर वे अपना नाम, अनुक्रमांक तथा पत्र संख्या अवश्य लिखें। नामांकन संख्या (अनुक्रमांक) गलत होने पर सत्रीय कार्य की उत्तरपुस्तिका का मूल्यांकन नहीं किया जायेगा। प्रत्येक पत्र के सत्रीय कार्य को अलग-अलग लिफाफों में डालकर सील कर दें और सील बन्द लिफाफा को वे सम्बन्धित पत्र की लिखित परीक्षा के दिन अपने साथ परीक्षा केन्द्र पर लेते आयें, अर्थात्, जिस दिन प्रथम पत्र की लिखित परीक्षा हो, उस दिन वे प्रथम पत्र से सम्बन्धित सत्रीय कार्य की उत्तरपुस्तिका का सील्ड लिफाफा अपने साथ परीक्षा हॉल में ले आयें और उसे अपने सीट पर रख लें। इसी प्रकार, जिस दिन द्वितीय पत्र की लिखित परीक्षा हो, उसी दिन द्वितीय पत्र से सम्बन्धित सत्रीय कार्य की उत्तर पुस्तिका का सील्ड लिफाफा ले आयें। तदनुसार, अन्य पत्रों की लिखित परीक्षा के दिन, उन पत्रों से सम्बन्धित सील्ड लिफाफा अपने साथ ले आयें और उसे अपने सीट पर रख लें। प्रत्येक दिन परीक्षा से सम्बन्धित वीक्षकगण आपके सीट से आपका सील्ड लिफाफा संग्रह कर लेंगे और उपस्थित पंजी पर आपका हस्ताक्षर ले लेंगे, जो इस बात का प्रमाण होगा कि आपने पत्र के लिए अपना सत्रीय कार्य जमा कर दिया है। सत्रीय कार्य की उत्तर पुस्तिका को किसी भी हालात में डाक अथवा कुरियर से नहीं भेजें क्योंकि विश्वविद्यालय इसको स्वीकार नहीं करेगा। किसी भी पत्र में Theory Paper की परीक्षा समाप्त हो जाने के बाद, उस पत्र से सम्बन्धित सत्रीय-कार्य पुस्तिका स्वीकार नहीं की जायेगी।

### Methods of Submission of Assignment

Each student shall be required to submit two assignments of 20 marks in each theory paper of all programmes where no practical/project work is prescribed. For this purpose, the University administration will set out and provide to each student three different topics in each theory paper; out of which he/she will be required to write out and submit assignment work only on two topics of his/her choice in the answer book provided to him/her for this purpose by the University. Both the assignments, each carrying equal marks, shall be evaluated for the purpose of examination. It is again emphasized that writing of two assignment in each theory paper, where no practical/project work is prescribed, is compulsory and unless it is done and assignment copy submitted to the University on the date of the examination of the theory portion of the concerned paper, the study requirement of the student will not be taken to have been completed and he/she will be declared to have failed. Besides, it has, now, been decided by the University to club the marks obtained by a student in his/her assignment work/project work with the marks obtained by him/her in the written examination of that paper to determine his/her pass percentage in the concerned paper. Hence, it is in student's interest that he/she submits the assignment work in time. Students are also advised to prepare their assignments very carefully and meticulously. They must write assignment in their own handwriting. Assignment answers should not be copied from the learning material supplied by the University or from any other source. Assignments must be submitted in the answer books provided to the students by the University for this purpose. In no case, assignment written assignment written in private copy will be accepted by the University. In case of loss of assignment copy, fresh assignment copy may be procured from the University on payment of Rs. 100.00 by bank draft. Similarly, Project-Work, wherever prescribed, must also be submitted by the fixed date, failing which the student will be deemed to have failed in the concerned subject.

## **ASSIGNMENT QUESTIONS (सत्रीय कार्य)**

### **MCA, PART-II [NEW]**

#### **PAPER-IX**

#### **(PRACTICAL WORK)**

#### **PAPER-X [NEW]**

**Answer Any Two Questions.** (सभी प्रश्न 10–10 अंकों के हैं)

1. Explain Bresenham's circle generation algorithms with the help of an example.
2. What do you mean by composite transformation in 3D transformation? Explain with the help of an example.
3. Describe some basics of animation techniques. What is Ray tracing ?

#### **PAPER-XI [NEW]**

**Answer Any Two Questions.** (सभी प्रश्न 10–10 अंकों के हैं)

1. Define Software engineering ? Explain the terms Software process and software project in term of Software engineering.
2. Discuss how Software Teams are structured for developing a Software. What are the four "organizational paradigms" for software engineering teams ?
3. Why testing is important in Software engineering ? Describe various types of Black Box Testing with the help of an example.

#### **PAPER-XII [NEW]**

**Answer Any Two Questions.** (सभी प्रश्न 10–10 अंकों के हैं)

1. What are the different methods of data collection ? How the quality of the information can be measured ? Discuss.
2. What is the role of a file in MIS ? What are the problems with the traditional File environment ? Discuss.
3. Define Expert system. How it is beneficial in decision making of an organization ?

#### **PAPER – XIII, XIV, XV [NEW]**

#### **(PRACTICAL WORK)**

#### **PAPER-XVI [NEW]**

**Answer Any Two Questions.** (सभी प्रश्न 10–10 अंकों के हैं)

1. Define Multiplexing. Compare and contrast between Frequency Division Multiplexing and Time Division Multiplexing.
2. Describe the two sublayers of Datalink Layer. What are the functions of Datalink Layer in the network? Explain.
3. Explain the reasons of Network congestion. How this congestion problem can be corrected.

### **MCA, PART-II [OLD]**

#### **PAPER-XI [OLD]**

#### **(PRACTICAL WORK)**

#### **PAPER-XII [OLD]**

**Answer Any Two Questions.** (सभी प्रश्न 10–10 अंकों के हैं)

1. Draw a D.F.D. for "Library Information system". Assumptions can be made wherever necessary. Draw the DFD's till level -2.
2. Draw an activity diagram for a Sales Order Management System. The sales order management system includes sending an order by the customer, confirmation of the order through the receipt of the order, checking for condition whether the order is normal or special, confirmation of the order processing and finally dispatch of the order and raising the bill.
3. Mention the purpose of object diagrams and deployment diagrams. Also draw and explain the appropriate deployment diagram for an Online Admission System. The purpose of the online admission system is to automate the online student admission process. It also maintains students' personal details, academic records, payment details and generates reports.

#### **PAPER-XIII [OLD]**

**Answer Any Two Questions.** (सभी प्रश्न 10–10 अंकों के हैं)

1. Describe the COCOMO model in detail for software estimation. What is cyclomatic complexity?
2. Explain the various steps in requirement engineering process. Explain software reengineering with a diagram.
3. Explain the various levels of SEI-CMM. Write down the several aspects of creating a good design. Explain each step.

### **PAPER–XIV [OLD]**

**Answer Any Two Questions.** (सभी प्रश्न 10–10 अंकों के हैं)

1. Describe the tasks and responsibilities of a modern financial manager.
2. What is Ratio Analysis ? Discuss its importance and limitations in business.
3. Frame a Trading Account with appropriate items. What is the difference between Trading Account and Profit & Loss Account ?

### **PAPER-XV [OLD] (PRACTICAL WORK)**

### **PAPER–XVI [OLD]**

**Answer Any Two Questions.** (सभी प्रश्न 10–10 अंकों के हैं)

1. Write a procedure to create, insert and display the content of a singly linked list.
2. Write a procedure to create, insert and delete an element in queue.
3. Explain insertion sorting with an example. Give other situations in which insertion sort is most efficient. Also, explain how the worst case can be avoided.

### **PAPER–XVII [OLD]**

**Answer Any Two Questions.** (सभी प्रश्न 10–10 अंकों के हैं)

1. What are the different layers of the TCP/IP protocol suite ? Write the function of each. Give a mapping between the TCP/IP layers and the OSI layers.
2. Explain the function of any two protocols in the TCP/IP suite. What are Data Terminal Equipment and Data Communication Equipment ?
3. Name any two network protocols supported by Windows 2000. What is a roaming user profile in Windows 2000 ? List six events that can be audited on a Windows 2000 computer.

### **PAPER–XVIII [OLD]**

**Answer Any Two Questions.** (सभी प्रश्न 10–10 अंकों के हैं)

1. What is an E-R diagram ? What are its basic components? How these components are represented in a diagram ? Explain.
2. Differentiate between Functional dependency and multivalued dependency with the help of an example. How does it support in normalization of DBMS.
3. Explain the concept of concurrent transaction with the help of an example. What are the SQL commands that support transaction ?

### **PAPER–XIX [OLD]**

**Answer Any Two Questions.** (सभी प्रश्न 10–10 अंकों के हैं)

1. What is an exception ? Explain difference between checked and unchecked exceptions with an example of each. What is the difference between throw and throws keywords used in Java ? Explain with an example.
2. "Java is architecture neutral, secure and distributed programming language." Justify the statement. What is private access specifier ? Explain with an example, how it is different from public and protected access specifiers.
3. What is finalize( ) method in Java. Give an example to demonstrate its use. Explain use of super keyword in Java, with an example.

### **PAPER-XX [OLD] (PRACTICAL WORK)**