



NALANDA OPEN UNIVERSITY

Assignment Questions (Session 2018-21)

[for Annual Examination, 2021]

MASTER IN COMPUTER APPLICATION (MCA), PART-III

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 सीलड 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 उत्तरपुस्तिका का सीलड लिफाफा ले आयें। तदनुसार, अन्य पत्रों की लिखित परीक्षा के दिन, उन पत्रों से सम्बन्धित सीलड लिफाफा अपने साथ ले आयें और उसे अपने सीट पर रख लें। प्रत्येक दिन परीक्षा से सम्बन्धित वीक्षकगण आपके सीट से आपका सीलड 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 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-III (NEW BATCH)

PAPER–XVII [NEW] (PRACTICAL WORK)

PAPER–XVIII [NEW]

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

1. Define Normalization ? Explain different normal forms with examples.
2. Explain the concept of Embedded SQL and Dynamic SQL with the help of example. Give at least two complete examples of each.
3. What are the basic steps in query processing ? How can the cost of query be measured ? What are the various methods adopted in select operation ?

PAPER–XIX [NEW]

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

1. What is the concept of passes in Compiler ? Explain single pass and multi-pass compiler.
2. Why Symbol table is used ? Explain the commonly used data structure for implementing symbol table.
3. Discuss Ambiguity with the help of an example. Compare and contrast between LL and LR with examples.

PAPER–XX [NEW]

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

1. Describe the concept of space and time complexity of an Algorithm. Discuss these complexities in context of a program written to generate the Factorial of a given number.
2. Explain Kruskal's method for finding Minimum Spanning tree of a Graph. Compare Prim's method with Kruskal's Method with example.
3. Discuss in detail Number Theoretic Algorithms with examples.

PAPER–XXI [NEW]

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

1. What is searching in AI? Differentiate between Breadth First Search (BFS) and Depth First Search (DFS). Discuss the advantages and disadvantages of both the searching techniques.
2. Discuss at least two informed searches with examples. Give some desirable properties of heuristic search algorithms.
3. Define Game. What are the components of a game? Discuss MIN-MAX search procedure with the help of example.

PAPER–XXII [NEW]

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

1. Evaluate the Integral $I = \int_0^1 \frac{dx}{1+x}$ using Gauss Legendre three point formula.
2. Using Runge Kutta method of order 4, find $y(0.2)$ given that $y' = 3x + \frac{y}{2}$, $y(0) = 1$ taking $h = 0.1$.
3. Explain Binomial and Poisson distribution.

PAPER–XXIII [NEW] (PRACTICAL WORK)

PAPER–XXIV [NEW] (PRACTICAL WORK)

MCA, PART-III (OLD BATCH)

PAPER–XXI [OLD]

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

1. Why memory is important in computers ? Explain the concept of virtual memory system.
2. What is segmentation ? Explain with an example. How segmentation different from paging.
3. Discuss hardware support in paging. How is overlay different from swapping? Explain.

PAPER–XXII [OLD]

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

1. Define Normalization ? Explain different normal forms with examples.
2. Explain the concept of Embedded SQL and Dynamic SQL with the help of example. Give at least two complete examples of each.
3. What are the basic steps in query processing ? How can the cost of query be measured ? What are the various methods adopted in select operation ?

PAPER–XXIII [OLD] (PRACTICAL WORK)

PAPER–XXIV [OLD]

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

1. Define HTTP. Briefly explain the working of HTTPS client authentication.
2. Explain the different types of JDBC drivers along with their advantages and disadvantages.
3. Briefly explain any two security considerations in an application.

PAPER–XXV [OLD]

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

1. Discuss various input and out devices used for multimedia and graphics.
2. What is 2D transformation ? Discuss various types of 2D transformation with diagram.
3. Explain DDA line generation algorithm. What are the limitations of DDA algorithm ?

PAPER–XXVI [OLD] (PRACTICAL WORK)

PAPER–XXVII [OLD]

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

1. Discuss at least two informed searches with examples. Give some desirable properties of heuristic search algorithms.
2. Define Artificial Intelligence (AI). Discuss different types of Intelligence.
3. Explain the concept of conceptual dependency with examples.

PAPER–XXVIII [OLD]

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

1. Evaluate the Integral $I = \int_0^1 \frac{dx}{1+x}$ using Gauss Legendre three point formula.
2. Using Runga Kutta method of order 4, find $y(0.2)$ given that $y' = 3x + \frac{y}{2}$, $y(0) = 1$ taking $h = 0.1$.
3. Explain Binomial and Poisson distribution.

PAPER–XXIX [OLD]

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

1. Define event driven programming. Discuss the advantages and disadvantages.
2. Discuss event handling with web server. What are list controls. Explain.
3. Describe the design features of .Net framework. Discuss .Net class library.

PAPER–XXX [OLD] (PRACTICAL WORK)

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