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Internal Assignment

M.C.A. 2nd Year

प्रिय छात्र,

आपको MCA 2nd Year पाठ्यक्रम के विभिन्न प्रश्न पत्रों के सत्रीय कार्य दिए जा रहे है। आपको प्रत्येक प्रश्न पत्र के दिए गए सत्रीय कार्य करने हैं। इन्हें पूरा करके आप निर्धारित अंतिम तिथि से पूर्व अपने क्षेत्रीय केंद्र /अध्ययन केंद्र (जहाँ पर आपने प्रवेश लिया है) पर स्वयं अथवा पंजीकृत डाक से आवश्यक रूप से भिजवा दें। प्रत्येक सत्रीय कार्य 20 अंकों का हैं। इन प्राप्तांको को आपकी सत्रांत परीक्षा के अंकों में जोड़ा जायेगा। सत्रीय कार्य स्वयं की हस्तलिपि में करें। सत्रीय कार्यो का पुनर्मूल्यांकन नहीं होता है और न ही इन्हें सुधारने हेतु दुबारा स्वीकार किया जाता हैं। अतः आप एक बार में ही सही उत्तर लिखें। आप संलग्न निर्धारित प्रपत्र पर वांछित सूचना भरकर सत्रीय कार्य के साथ संलग्न करें। सत्रीय गृह कार्य सादे अथवा रेखायुक्त A-4 आकार के पृष्ठों पर किया जा सकता है प्रत्येक पाठ्यक्रम जैसे MCA-201 के सत्रीय गृह कार्य करने के उपरान्त उसमें मुख पृष्ठ जोड़े जिस पर पाठ्यक्रम कोड ,पाठ्यक्रम नाम , स्कॉलर संख्या ,छात्र का नाम ,क्षेत्रीय केन्द्र का नाम इत्यादि विवरण अंकित करे व सत्रीयकार्य को स्टेपल (पिन) कर संयुक्त करे । इसके उपरान्त इस पर A-4 आकार के प्लास्टिक पारदर्शी स्ट्रिप कवर का उपयोग किया जा सकता है। इसी तरह MCA-202, MCA-203, MCA-205 एवं MCA-E-II के पृथक पृथक सत्रीय गृह कार्य करे । विश्वविद्यालय द्वारा निर्धारित अंतिम तिथि तक सम्बन्धित क्षेत्रीय केन्द्र पर सत्रीय गृह कार्य जमा करवाने का श्रम करे ।

MCA (2nd year) July 2022 - January 2023

Internal Assignment

1. पाठ्यक्रमकोड(Course Code).....

M	C	A	-			

2. पाठ्यक्रमकानाम.....

3. स्कॉलरसंख्या(Scholar No.).....

4. छात्रकानाम .....

Name of Student (in capital letters)

5. पिताकानाम .....

Name of Father (in capital letters)

6. पत्रव्यवहारकापता .....

.....

.....

Address for Corresponding

7. अध्ययनकेंद्रकानाम.....

Name of Study Centre

8. क्षेत्रीयकेंद्र (Regional Centre).....

Ajmer	Bikaner	Jaipur	Jodhpur	Kota	Udaipur	Bharatpur

जमाकरवानेकादिनांक (Date of Submission) .....

Internal Assignment- July 2022 - January 2023

Paper Code – MCA -201 (Data Structure and Algorithms)

Max Marks: 20

Note: The Question paper is divided into three sections A, B, and C. Write Answer as per the given instruction.

Section-A

(Very Short Answer Type Questions)

Note: Answer **all** questions. As per the nature of the question you delimit your answer in **one** word, one sentence or maximum up to 30 words. Each question carries **one** mark. 4 x 1 = 4

Q. A.1 Define tree pnove that a tree with n vertices has exactly n – 1 edges .

Q. A.2 Describe the types of Data Structures.

Q. A.3 What do you mean by N-P complete problem Give an example.

Q. A.4 Give an example of directed Acyclic Grapn (DAG)

Section-B

(Short Answer Questions)

Note: Answer **any two** questions. Each answer should not exceed 200 words. Each question carries **four** marks. 2 x 4 = 8

Q. B.1 What is stack? What are the basic operations associate with stack.

Q. B.2 Explain the breadth first search algorithm.

Q. B.3 Write an algorithum to count the number of leaf node in thetree. Also explain with suitable example .

Q B.4 Explain Asymptotic notations used while analyzing an algorithm.

Section - C

(Long Answer Questions)

Note: Answer any **one** question. You have to delimit your each answer maximum up to 800 words. Each question carries **eight** marks. 1 x 8 = 8

Q. C.1 What is an AVL tree? Explain the rotations of an AVL tree.

Q. C.2 What do you mean by sorting? Explain various sorting algorithms with their complexity.

Internal Assignment- July 2022 - January 2023

Paper Code – MCA -202 (Computer Architecture and Micro Processor)

Max Marks: 20

Note: The Question paper is divided into three sections A, B, and C. Write Answer as per the given instruction.

Section-A

(Very Short Answer Type Questions)

Note: Answer **all** questions. As per the nature of the question you delimit your answer in one word, one sentence or maximum up to 30 words. Each question carries **one** mark. 4 x 1 = 4

Q. A.1 What is subroutine??

Q. A.2 Define the term opcode?

Q. A.3What is Interrupts? Explain its role..

Q. A.4 What is the purpose of system bus ?

Section-B

(Short Answer Questions)

Note: Answer any **two** questions. Each answer should not exceed 200 words. Each question carries **four** marks. 2 x 4 = 8

Q. B.1 Explain instruction set Architecture? Give examples.

Q. B.2 What is cache? Explain main features of cache. State difference between cache and main memory.

Q. B.3What is Macro? How is it differ from subroutine.

Q B.4 What is Assembly language? How it is differ from machine language .

Section - C

(Long Answer Questions)

Note: Answer any **one** question. You have to delimit your each answer maximum up to 800 words. Each question carries **eight** marks. 1 x 8 = 8

Q. C.1 What is Graph? Explain how graphes are ripresented with suitable examples.

Q. C.2 Explain pipelining concept with suitable example.

Internal Assignment- July 2022 - January 2023

Paper Code – MCA -203 (Software Engineering)

Max Marks: 20

Note: The Question paper is divided into three sections A, B, and C. Write Answer as per the given instruction.

Section-A

(Very Short Answer Type Questions)

Note: Answer **all** questions. As per the nature of the question you delimit your answer in one word, one sentence or maximum up to 30 words. Each question carries **one** mark. 4 x 1 = 4

Q. A.1 What do you mean by test case? Give an example.

Q. A.2 What is meant by Prototyping .

Q. A.3 What id the use of DFD? List various symbols used in DFD.

Q. A.4 What is unit testing?

Section-B

(Short Answer Questions)

Note: Answer any **two** questions. Each answer should not exceed 200 words. Each question carries **four** marks. 2 x 4 = 8

Q. B.1 What do you mean by software Quality assurance Discuess various factors affecting software quality..

Q. B.2 Differentiate Coupling and conesion.

Q. B.3 Discuss project planning actiuities and cost estimation in detail..

Q B.4 What do you mean by software reuse? List the various levels of software used. Explain with example.

Section - C

(Long Answer Questions)

Note: Answer any **one** question. You have to delimit your each answer maximum up to 800 words. Each question carries **eight** marks. 1 x 8 = 8

Q. C.1 Design and explain the SRS of university management system,

Q. C.2 What do you mean by spiral model? Explain various stages of spiral model ?

Internal Assignment- July 2022 - January 2023

Paper Code – MCA-205 (Data Communication and Networks)

Max Marks: 20

Note: The Question paper is divided into three sections A, B, and C. Write Answer as per the given instruction.

Section-A

(Very Short Answer Type Questions)

Note: Answer **all** questions. As per the nature of the question you delimit your answer in one word, one sentence or maximum up to 30 words. Each question carries **one** mark. 4 x 1 = 4

Q. A.1 What is port number? Give an example.

Q. A.2 Draw a topological structure of mesh topology with S nodes.

Q. A.3 What is wave length? Give an example.

Q. A.4 List ant two merits of coaxial cabel.

Section-B

(Short Answer Questions)

Note: Answer any **two** questions. Each answer should not exceed 200 words. Each question carries **four** marks. 2 x 4 = 8

Q. B.1 What is slow start mechanism? Explain how it plays an important role in congestion control.

Q. B.2 What is Piggybackingl Give its importance.

Q. B.3 explain shannon's data communication model.

Q B.4 Write a short note on Network topologies.

Section - C

(Long Answer Questions)

Note: Answer any **one** question. You have to delimit your each answer maximum up to 800 words. Each question carries **eight** marks. 1 x 8 = 8

Q. C.1 What is Remote Procedure call? Explain its working with suitable example.

Q. C.2 explain Error detection techniques with suitable example.

Internal Assignment-July 2022 - January 2023

Paper Code – Elective-II: MCA-302 (Formal Language and Automata)

Max Marks: 20

Note: The Question paper is divided into three sections A, B, and C. Write Answer as per the given instruction.

Section-A

(Very Short Answer Type Questions)

Note: Answer **all** questions. As per the nature of the question you delimit your answer in one word, one sentence or maximum up to 30 words. Each question carries **one** mark**.**

4 x 1 = 4

Q.A.1 What is left factoring? Give an example.

Q.A.2 State the halting problem of TM.

Q.A.3 Write any four algebraic laws (identities) for regular expressions.

Q.A.4 State the Pumping lemma.

Section-B

(Short Answer Questions)

Note: Answer any **two** questions. Each answer should not exceed 200 words. Each question carries **four** marks.

2 x 4 = 8

Q.B.1 What are undecidable problems? Explain why PCP problem is considered undecidable.

Q.B.2 Define DFA. Obtain DFA for the regular expression (a+b)* aaa (a+b)*

Q.B.3 Construct a PDA to accept the language L= $\{WCW^R | W \epsilon (a,b)^+\}$ by empty stack.

Q.B.4 Write an algorithm to convert Moore machine into Mealy machine. Explain with a suitable example.

Section - C

(Long Answer Questions)

Note: Answer **any one** question. You have to delimit your each answer maximum up to 800 words.Each question carries **eight** marks.

1 x 8 = 8

Q.C.1 (i) Design a CFG for the language $L=\{a^n b^n \mid n \geq 0\}$.

(ii) Show that the following CFG is ambiguous:

$S \rightarrow SS \mid a$

Q.C.2 Define the basic model of a Turing machine. Design Turing machine to accept the language L = $\{a^n b^n \mid n >= 1\}$. Show an ID for the string 'aaabbb' with tape symbols.

Internal Assignment- July 2022 - January 2023

Paper Code – Elective-II: MCA-303 (E-Commerce)

Max Marks: 20

Note: The Question paper is divided into three sections A, B, and C. Write Answer as per the given instruction.

Section-A

(Very Short Answer Type Questions)

Note: Answer **all** questions. As per the nature of the question you delimit your answer in one word, one sentence or maximum up to 30 words. Each question carries **one** mark**.**

4 x 1 = 4

Q.A.1 What is VPN's?

Q.A.2 What is DDOS (Distributed DOS)?

Q.A.3 What is IT act 2000?

Q.A.4 What is Micro Payment?

Section-B

(Short Answer Questions)

Note: Answer any **two** questions. Each answer should not exceed 200 words. Each question carries **four** marks.

2 x 4 = 8

Q.B.1 What is I-Way? Describe the network infrastructure of e-commerce.

Q.B.2 Write short note on chargeback life cycle.

Q.B.3 What is Virus? Explain its infection methods in Computer.

Q.B.4 What is EDI? Describe its advantages and disadvantages.

Section - C

(Long Answer Questions)

Note: Answer **any one** question. You have to delimit your each answer maximum up to 800 words.Each question carries **eight** marks.

1 x 8 = 8

Q.C.1 Explain the concept of Supply Chain Management in detail. Why it is important to any industry or any organization? Illustrate by citing suitable examples.

Q.C.2 Explain the security services that are offered in E-Payment system**.** Discuss e-payment system in detail.