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Total No. of Pages : 02

Total No. of Questions : 09

MCA (Sem.–3)

SOFTWARE PROJECT MANAGEMENT

Subject Code : PGCA1930

M.Code : 90801

Date of Examination : 20-06-2024

Time : 3 Hrs.

Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION - B & C have FOUR questions each.**
3. **Attempt any FIVE questions from SECTION B & C carrying TEN marks each.**
4. **Select atleast TWO questions from SECTION - B & C.**

SECTION-A

1. Write short notes on :

(i) What do you mean by Software Quality Assurance?

(ii) What do you mean by risk quantification?

(iii) What are milestones?

(iv) What is the significance of cost-benefit analysis?

(v) What is critical path? What is its importance?

(vi) Mention the important activities in the Software Project Management.

(vii) Define risk identification and its ranking.

(viii) What is risk management?

(ix) What are the advantages of COCOMO?

(x) What is Phase?

SECTION-B

2. What is Project Planning? What are the major activities in Project Planning? Explain in detail.

3. Explain drawing of Gantt Chart with an example. Also, state the difference between CPM and PERT.

4. Define project. How software project differs from other projects?

5. Discuss the various risks in a project is susceptible to. How the Risk Management plans are derived and implemented?

SECTION-C

6. What are the Project Execution processes? Explain them in detail.

7. What are the steps in Project Closure? Explain in detail.

8. Explain Oldham-Hackman Job characteristic model.

9. Explain with an example how the earned value chart depicts scheduled progress, actual cost and actual progress (earned value) to allow the determination of spending, schedule and time variances?

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Total No. of Questions : 09

Total No. of Pages : 02

MCA (Sem.–3)

THEORY OF COMPUTATION

Subject Code : PGCA 1927

M.Code : 90800

Date of Examination : 18-06-2024

Time : 3 Hrs.

Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C. have FOUR questions each.
3. Attempt any FIVE questions from SECTION B & C carrying TEN marks each.
4. Select atleast TWO questions from SECTION - B & C.

SECTION-A

1. **Write short notes on :**

   a) DFA

   b) Moore

   c) Ambiguity

   d) Type-2 grammar

   e) CNF

   f) Left context

   g) Language

   h) Unit Productions

   i) PDA

   j) Transition Diagram.

SECTION-B

2. Construct a Moore machine equivalent to the Mealy machine M defined as follows

Present State	Next State			
	a = 0		a = 1	
	state	output	state	output
$\rightarrow q_1$	q_1	1	q_2	0
q_2	q_4	1	q_4	1
q_3	q_2	1	q_3	1
q_4	q_3	0	q_3	1

3. Write a note on how to minimize finite automata.

4. Define regular sets and write its closure properties.

5. Find a grammar in GNF equivalent to the grammar

   $E \rightarrow E + T \mid \quad T \rightarrow T * F \mid F \quad F \rightarrow (E) \mid a.$

SECTION-C

6. Describe TM and its representations in detail.

7. Design PDA for $\{a^m b^m \mid m \geq 1\}$.

8. Explain in detail the Chomsky classification of languages.

9. Write a note unsolvable problem for context-free languages and classifying complexity.

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MCA (Sem.–3)

ARTIFICIAL INTELLIGENCE & SOFT COMPUTING

Subject Code : PGCA1926

M.Code : 90799

Date of Examination : 14-06-2024

Time : 3 Hrs. Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C, have FOUR questions each.
3. Attempt any FIVE questions from SECTION-B & C carrying TEN marks each.
4. Select atleast TWO questions from SECTION-B & C and FIFTH from any section.

SECTION-A

1. **Write short notes on :**

   a. Define AI.

   b. What is Tic-Tac-Toe problem?

   c. What is clause in AI?

   d. Discuss Greedy Search.

   e. Write the use of Semantic Analysis.

   f. Write a short note on Supervised Learning.

   g. Define Fuzzy Logic.

   h. What are Back propagation networks?

   i. Discuss concept of optimization.

   j. What are hybrid systems?

SECTION-B

2. Discuss the concept and solution of 8-Queens problem.

3. Explain Knowledge representation. What is importance and use of propositional Logic in AI?

4. How does Hill climbing algorithm work? Write its applications.

5. Write the concept of grammars and parsing in Natural language processing.

SECTION-C

6. Explain some of the important applications of Soft Computing.

7. Discuss the use of Neural Networks. Discuss its learning rules.

8. By taking an suitable example show the Fuzzy Arithmetic and structure of Fuzzy rule based system.

9. Explain in detail about Genetic algorithms operators, methods of selection and crossover.

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MCA (Sem.–3)

ADVANCED COMPUTER NETWORKING

Subject Code : PGCA1925

M.Code : 90798

Date of Examination : 12-06-2024

Time : 3 Hrs. Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C. have FOUR questions each.
3. Attempt any FIVE questions from SECTION -B & C carrying TEN marks each.
4. Select atleast TWO questions from SECTION - B & C.

SECTION-A

1. Write short notes on :

   a) Define Multiplexing.

   b) Discuss hamming code.

   c) Write about sliding window protocol.

   d) What is principle of congestion control?

   e) Write about FTP.

   f) Define WLAN.

   g) What is the use of IEEE 802.11?

   h) Compare Adhoc vs cellular networks.

   i) Discuss TDMA.

   j) What is Frequency reuse?

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SECTION-B

2. Discuss in detail the OSI model used in Computer Networks?

3. **Define following :**

   a) Transmission media

   b) Error detection and correction codes.

4. Write the various routing algorithms used in networking.

5. Explain the addressing and flow control on transport layer.

SECTION-C

6. Discuss in detail the Wireless and Mobile Networking Technologies.

7. a) **Write a note on** features of Adhoc Network.

   b) Give the introduction of MAC Protocols.

8. Discuss the evolution of 2G cellular networks. How it is used for wireless communication?

9. How would the coverage and capacity improvement be done in cellular systems?

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MCA (Sem.–3)

E-COMMERCE AND DIGITAL MARKETING

Subject Code : PGCA-1921

M.Code : 90807

Date of Examination : 08-06-2024

Time : 3 Hrs. Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C have FOUR questions each.
3. Attempt any FIVE questions from SECTION-B & C carrying TEN marks each.
4. Select atleast TWO questions from SECTION - B & C.

SECTION-A

1. Write briefly:

i. Value exchange system

ii. SEO

iii. Google rankings

iv. P-O-E-M Framework

v. E-commerce

vi. Influencer marketing

vii. Display media

viii. Paid search

ix. Hypertext publishing

x. LinkedIn marketing.

SECTION-B

2. Write in detail how WWW is used as architecture and hypertext publishing?

3. Define following :

i. Electronic Fund Transfer.

ii. Risk in Electronic Payment System.

4. Write the various Electronic Data Interchange methods explaining their uses.

5. Explain the Legal security and privacy issues in E-Commerce.

SECTION-C

6. How can digital marketing strategy be planned to address the marketing challenges?

7. What is the digital marketing landscape? What are the skills required in digital Marketing?

8. Discuss the various content creation tools & apps. What are the challenges of content marketing?

9. Whatis SEO & SMM? How SEO is helping businesses to grow?

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