Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐

Total No. of Questions: 09   Total No. of Pages: 02

MCA, Semester- 3rd

E-COMMERCE AND DIGITAL MARKETING

Subject Code: PGCA1921

M.Code: 90807

Date of Examination: 26.11.2025

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 at least TWO questions from SECTION B & C.

Q. No.	Question	Course Outcome	Bloom's Level
	SECTION-A		
1.	Answer briefly:		
a.	Define e-business.	CO1	L1
b.	Explain how customers benefit from e-commerce.	CO1	L2
c.	What is a digital signature?	CO2	L1
d.	Describe the working of UPI in India.	CO2	L2
e.	Define web analytics.	CO3	L1
f.	Illustrate a successful viral marketing campaign with an example.	CO3	L2
g.	List three popular social media platforms used in marketing.	CO4	L1
h.	Explain the importance of off-page optimization.	CO4	L2
i.	What is remarketing in digital advertising?	CO5	L1
j.	Compare mobile ads with desktop ads.	CO5	L2
	SECTION-B		
2.	Illustrate how hypertext publishing can enhance e-commerce applications with examples.	CO1	L3
3.	Analyze the differences between traditional and electronic payment systems.	CO2	L4
4.	Evaluate the efficiency of PayPal or UPI as electronic payment systems.	CO2	L5
5.	Evaluate the role of web presence and content creation in digital marketing success.	CO3	L5
	SECTION-C		
6.	Apply digital display advertising strategies to improve product awareness for a new mobile app.	CO4	L3
7.	Examine the role of search engine marketing in driving traffic compared to social media campaigns.	CO5	L4

8.	Critically assess how keyword research influences the visibility and credibility of a brand's web presence. Provide an example to justify your evaluation.	CO5	L5
9.	Demonstrate how email marketing and forums can be integrated into a single marketing strategy.	CO3	L3

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Total No. of Pages: 01

Total No. of Questions: 09

MCA, Semester- 3rd
ADVANCED COMPUTER NETWORKING
Subject Code: PGCA1925
M.Code: 90798
Date of Examination: 08-12-2025

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 question of SECTION B & C carrying TEN marks each.
4. Select at least TWO questions from SECTION B & C.

Q. No.	Question	Course Outcome	Bloom's Level
	SECTION-A		
1.	Answer briefly:		
a.	List any two uses of computer networks.	CO1	L1
b.	Explain layered network architecture.	CO1	L2
c.	Define Selective Repeat ARQ.	CO2	L1
d.	Illustrate HDLC protocol.	CO2	L2
e.	Define cell splitting in reference to mobile network.	CO3	L1
f.	Explain wireless communication.	CO3	L2
g.	List any two protocols used in adhoc networks.	CO3	L1
h.	Compare analog and digital signal.	CO4	L2
i.	What is 2G cellular network?	CO4	L1
j.	Classify framing in data link layer (any two).	CO2	L2
	SECTION-B		
2.	Identify the types of multiplexing? Compare all with help of diagram?	CO1	L3
3.	Examine error detection techniques: parity check, checksum, and CRC.	CO2	L4
4.	Explain token bucket algorithm for congestion control with the help of diagram.	CO3	L5
5.	Determine the functions of the seven layers of the OSI model with the help of diagram.	CO1	L5
	SECTION-C		
6.	Identify the pure ALOHA protocol with throughput analysis.	CO3	L3
7.	Examine subnetting with the help of diagram. Also give an example to explain the concept.	CO4	L4
8.	Analyze the features of TCP and UDP protocols.	CO3	L5
9.	Explain the working of World Wide Web (WWW), Email system and file transfer protocol on network.	CO4	L4

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Total No. of Questions: 09

MCA Semester- 3rd
ARTIFICIAL INTELLIGENCE & SOFT COMPUTING
Subject Code: PGCA 1926
M.Code: 90799
Date of Examination: 02-12-2025

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 question from SECTION B & C carrying TEN marks each.
4. Select at least TWO questions from SECTION B & C.

Q. No.	Question	Course Outcome	Bloom's Level
	SECTION-A		
1.	Answer briefly:		
a.	Identify two domains of Artificial Intelligence.	CO1	L2
b.	What is backward chaining?	CO1	L2
c.	Define hill climbing.	CO2	L1
d.	Explain the difference between uninformed and informed search techniques.	CO2	L2
e.	Explain the concept of supervised learning in machine learning.	CO3	L1
f.	Interpret the concept of Adaptive Resonance Theory (ART).	CO3	L2
g.	What is inference in fuzzy logic?	CO4	L1
h.	Summarize two applications of fuzzy systems.	CO4	L2
i.	List the types of hybrid soft computing system.	CO5	L1
j.	Explain the working principle of a genetic algorithm.	CO5	L2
	SECTION-B		
2.	Identify the challenges in inference using first-order logic.	CO1	L3
3.	Analyze the role of pragmatics in natural language processing.	CO2	L4
4.	Explain the significance of learning rules in neural networks.	CO3	L5
5.	Compare toy problems and real-world problems in AI.	CO1	L5
	SECTION-C		
6.	Identify the role of fuzzy relations in decision-making systems.	CO4	L3
7.	Analyze different encoding methods used in genetic algorithms.	CO5	L4
8.	Explain the real-world applications of soft computing for efficiency.	CO3	L5
9.	Apply fuzzification and defuzzification methods in a fuzzy logic control system.	CO4	L3

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1|M- 90799

Roll No. | | | | | | | | | | | | | Total No. of Pages: 01

Total No. of Questions: 09

MCA, Semester- 3RD
THEORY OF COMPUTATION
Subject Code: PGCA1927
M.Code: 90800
Date of Examination: 29-11-2025

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 question from SECTION B & C carrying TEN marks each.
4. Select at least TWO questions from SECTION B & C.

Q. No.	Question	Course Outcome	Bloom's Level
	SECTION-A		
1.	Answer briefly:		
a.	Define diagonal argument.	CO1	L1
b.	Compare DFA and NDFA.	CO1	L2
c.	List the operations on regular languages.	CO2	L1
d.	Explain the use of pumping lemma in proving non-regularity.	CO2	L2
e.	What is ambiguity in CFG?	CO3	L1
f.	State the difference between CNF and GNF.	CO3	L2
g.	What is a tape alphabet?	CO4	L1
h.	Analyze the Recursive Languages with examples.	CO4	L2
i.	What is an unrestricted grammar?	CO5	L1
j.	Differentiate between solvable and unsolvable problems.	CO5	L2
	SECTION-B		
2.	Construct an example showing the difference between language and grammar.	CO1	L3
3.	Analyze the properties of CFLs with examples.	CO2	L4
4.	Evaluate how grammar simplification enhances parser efficiency.	CO3	L5
5.	Evaluate the equivalence of two automata by giving any example.	CO2	L5
	SECTION-C		
6.	Construct a TM equivalent to a context-sensitive grammar. By taking suitable example.	CO4	L3
7.	Explain the Halting Problem and prove its undesirability.	CO5	L4
8.	Compare all four types of Chomsky Hierarchy with their acceptors.	CO5	L5
9.	Construct a CFG for balanced parentheses.	CO3	L3

MCA, Semester-3rd

SOFTWARE PROJECT MANAGEMENT

Subject Code: PGCA1930

M.Code: 90801

Date of Examination: 05-12-2025

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 question of SECTION B & C carrying TEN marks each.
4. Select at least TWO questions from SECTION B & C.

Q. No.	Question	Course Outcome	Bloom's Level
	SECTION-A		
1.	Answer briefly:		
a.	What are the main processes involved in initiating a project?	CO1	L1
b.	Summarize the role of risk evaluation in software projects.	CO1	L2
c.	Define cash flow forecasting in project management.	CO2	L1
d.	Interpret Project Cost Estimate with an example.	CO2	L2
e.	What are the main processes involved in initiating a project?	CO1	L1
f.	Explain evaluation techniques with an example.	CO3	L2
g.	Define controlling quality in project management.	CO3	L1
h.	Illustrate directing and managing Project Work with an example.	CO4	L2
i.	Recall types of Contracts in project management.	CO4	L1
j.	Illustrate Schedule Compression with an example.	CO3	L2
	SECTION-B		
2.	Choose an example related to planning for risks in project management.	CO1	L3
3.	Discover a project's COCOMO II estimate and explain variances against historical data.	CO2	L4
4.	Conclude the importance of Software Project Management Activities in project success.	CO2	L5
5.	Prioritize the impact of organizational structure on team communication and propose reorganization options.	CO3	L5

	SECTION-C		
6.	Utilize earned value analysis to track project performance.	CO3	L3
7.	Analyze relationships between stress, health, and project performance.	CO4	L4
8.	Interpret stress management techniques for a project team under tight deadlines.	CO4	L5
9.	Develop a work plan for executing a project using a Gantt chart.	CO4	L3

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