

BA-MIN-COMP-03: AI for Everyone

Total Marks: 100

External Examination: 70

Internal Assessment: 30

Credits: 5

Maximum Time: 3 Hrs

Minimum Pass Marks: 35%

Lectures to be delivered: 55-60 Hrs

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Course Outcome:

- Define and explain the fundamental concepts and subfields of AI.
- Identify real-world applications of AI across various industries.
- Analyze the ethical, social, and economic implications of AI.
- Recognize the potential of AI to drive innovation and transformation in different domains.

A) Instructions for the paper setter

The question paper will consist of three sections A, B & C. Sections A & B will have four questions from the respective sections of the syllabus and will carry 30% marks each. Section C will have 6-12 short answer type questions which will cover the entire syllabus uniformly and will carry 40% marks in all.

B) Instructions for the candidates

1. Candidates are required to attempt five questions in all, selecting two questions each from Section A and Section B and compulsory questions of Section C.
2. Use of non-programmable scientific calculators is allowed.

Section -A

Introduction to Artificial Intelligence :

- Definition and scope of AI
- Historical overview and key milestones
- Differentiating AI from human intelligence

AI Subfields and Technologies

- Machine learning: Supervised, unsupervised, and reinforcement learning
- Deep learning and neural networks
- Natural language processing (NLP) and computer vision

Section B

Applications of AI

- AI in healthcare: Diagnosis, treatment, and medical imaging
- AI in finance: Fraud detection, algorithmic trading, and risk assessment
- AI in transportation: Autonomous vehicles and traffic optimization
- AI in customer service and chatbots
- AI in education: Personalized learning and intelligent tutoring systems

Ethical and Social Implications of AI

- Bias and fairness in AI systems
- Privacy and data protection concerns
- Impact of AI on employment and the workforce
- AI and social line quality

Other Important

Issues

- Ethical guidelines and responsible AI practices
- AI and Innovation
- Emerging trends and future directions in AI
- AI and creativity: Generative models and artistic applications.

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B.A. SEMESTER-IV

SESSION 2026-27

(Minor Theory)

BA-MIN-COMP-04: FUNDAMENTALS OF DBMS

Total Marks: 70

External Marks: 50

Internal Assessment: 20

Maximum Time: 3 Hrs.

Minimum Pass Marks: 35%

Lectures to be delivered: 45-55 Hrs.

Credit: 04 (03T+01P)

Instructions for the paper setter

The question paper will consist of three sections A, B and C. Each of sections A and B will have four questions from the respective sections of the syllabus and each question carry 7.5 marks. Section C will consist of one compulsory question having 10 parts of short-answer type covering the entire syllabus uniformly and each question will carry 2 marks.

Instructions for the candidates

Candidates are required to attempt two questions each from section A and B and the entire section C.

SECTION A

Traditional file procession system: Characteristics, limitation. Database: Definition, composition.

Database Management System: Definition, Characteristic advantages over traditional file processing system, Implication Database approach, Uses of database, DBA and its responsibilities Database schema, instance. DBMS architecture, data independence, mapping between different levels.

Database language: DDL, DML, DCL.

Keys: Super, candidate, primary, unique, foreign.

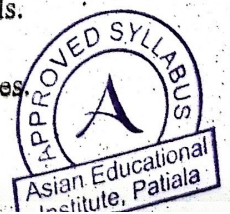
Entity relationship model : concepts, mapping cardinalities, entity relationship diagram, weak sets, strong entity sets, aggregation, generalization, converting ER diagram to tables.

SECTION B

Normalization: Definition, Need, Process: Determinant, Functional Dependency, Full Functional Dependency, Partial Dependency, Transitive dependency, Multivalued Dependency, Join Dependency, Types of Normal Forms, Merits and Demerits of Normalization.

Transaction & Concurrency Control: Concept of transaction, ACID properties, Serializability, States of transaction, Concurrency Control – Locking techniques, time-stamp based protocols.

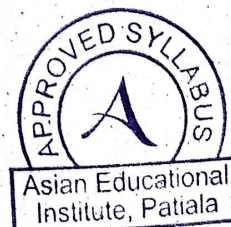
Database Security: Security requirements, database integrity, Granting & revoking privileges.



Reference Books:

1. JD.Ullman, Garcia Molina, Database System: The Complete Book, Pearson Education.
2. Ramez Elmasri, Fundamentals of Database Systems, Pearson Education.
3. C.J Date, An Introduction to Database System, Pearson Education.
4. Parteek Bhatia, Database Management System.
5. Henry F. Korth, Database System Concepts, Tata McGraw-Hill.

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B.A. SEMESTER-IV
SESSION 2026-27

(Minor Lab)

BA-MIN-COMP (P)-04: FUNDAMENTALS OF DBMS

Total Marks: 30

Minimum Pass Marks: 35%

The laboratory course will comprise of exercises to supplement what is learnt under Paper
FUNDAMENTALS OF DBMS

The break-up of marks for the practical will be as under:

Lab Record	:	05 marks
Viva Voce	:	10 marks
Program Development and Execution	:	15 marks

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