Answer Key
Class X Artificial Intelligence
(Code 417)

SECTION A – OBJECTIVE TYPE QUESTIONS

1(i): Self-management skill visible: Self-motivation / Focus and dedication.

1(ii): Answer: (c) Hover

1(iii): Answer: (a) Both A and R are correct and R is the correct explanation of A

1(iv): Answer: (d) Tracking

1(v): Answer: (d) Linguistic barrier

2(i): Answer: (a) Both A and R are correct and R is the correct explanation of A

2(ii): Answer: (b) Data Privacy

2(iii): Answer: (b) Both Statement 1 and Statement 2 are incorrect

2(iv): Answer: The more trained the neural network, the better is the performance.

2(v): Answer: (c) .csv

3(i): Answer: (c) (iii) and (iv)

3(ii): Answer: Features refer to the type of data that we want to collect.

3(iii): Answer: (b) Target Advertisements

3(iv): Answer: (b) Object Detection

3(v): Answer: Smart Chatbots / AI-based Chatbots

SUBJECTIVE TYPE QUESTIONS

4. Best Practices for Effective Communication

- Listen actively and pay attention to the speaker.
- Use clear, polite, and simple language while communicating.

5. Confusion Matrix

	Predicted Positive	Predicted Negative
Actual Positive	True Positive = 100	False Negative = 290
Actual Negative	False Positive = 62	True Negative = 47

6. AI Ethics in Healthcare

Utilitarianism:
According to utilitarian ethics, the AI system should maximize overall benefit and provide fair treatment to all patients.
Since rural patients are unfairly disadvantaged, the system is reducing overall social welfare and creating inequality.

Deontological Ethics:
Deontological ethics focuses on duty, fairness, and rights. Every patient has an equal right to emergency treatment.
The AI system violates ethical duties because it discriminates against rural patients.

Practical Steps:
• Use diverse and balanced training data from both urban and rural areas.
• Regularly audit the AI system for bias and unfair outcomes.
• Maintain transparency by explaining how decisions are made.
• Include human supervision in critical healthcare decisions.
• Create accountability policies for developers and healthcare providers.

7. AI Solution for Retail Company

Machine Learning Approach:
Supervised learning would be the most suitable approach because the company already has past customer buying records
that can be used as labeled data to predict future purchasing behavior.

Use of Neural Networks:
• Text reviews can be processed using Natural Language Processing (NLP) models.
• Product images can be analyzed using Convolutional Neural Networks (CNNs).
• Buying records can be processed using deep neural networks to identify patterns and trends.

Challenges:
• Large datasets may require high computational power and training time.
• Data may contain noise, missing values, or bias.
• Overfitting may reduce model accuracy on new data.
• Ensuring privacy and security of customer information can be difficult.
• Deployment and maintenance of the model may require continuous updates.