



B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL



TERM 1 EXAMINATION (2026-27)
ARTIFICIAL INTELLIGENCE (843)
SET - 2
MARKING SCHEME

Class : XI (SCIENCE/COMMERCE/ARTS)

Time : 3 hrs.

Date :09/09/26

Max Marks : 50

Admission No. :

Roll No. :

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of 20 questions in two sections: Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. Out of the given (4 + 16 =) 20 questions, a candidate has to answer (4 + 11 =) 15 questions in the allotted (maximum) time of 2 hours.
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A – OBJECTIVE TYPE QUESTIONS (24 MARKS):**
 - i. This section has 04 questions.
 - ii. Marks allotted are mentioned against each question/part.
 - iii. There is no negative marking.
 - iv. Do as per the instructions given.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
 - i. This section has 16 questions.
 - ii. A candidate has to do 11 questions.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.

ANSWER KEY

SECTION A: OBJECTIVE TYPE QUESTIONS

Q.(1) Answer any 4 out of the given 6 questions on Employability Skills. (4 x 1 = 4)

1. **(b) Body language**
2. **(a) Sender → Message → Channel → Receiver → Feedback**
3. **(b) Achievable**
4. **(b) Ubuntu**
5. **(b) Understand the needs of customers**
6. **(a) Header**

Q.(2) Answer any 7 of 8 questions – Introduction: AI for Everyone. (7 x 1 = 7)

1. **(d) Natural Language Processing**
2. **(c) Artificial Intelligence**

3. (b) Extracting meaningful insights from data
4. (d) Deep Learning
5. (b) Unsupervised Learning
6. (c) Reinforcement Learning
7. (b) Computer Vision
8. False

Q.(3) Answer any 7 of 8 questions – Unlocking Your Future in AI. (7 x 1 = 7)

1. (a) Business Intelligence Developer
2. (a) Chatbots and voice-based assistants
3. (b) Geospatial and Defence
4. (b) AI Ethicist
5. (a) Textile and Design
6. (a) Data Scientist
7. (a) Automobile
8. True

Q.(4) Answer any 6 of 8 questions – Python Programming. (6 x 1 = 6)

1. (b) 8
2. (b) `while`
3. (a) `POP`
4. (b) False
5. (b) `if`
6. (b) To define blocks of code
7. (c) An infinite loop may occur
8. True

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 3 out of the given 4 questions: (3 x 2 = 6)

Q.(5) What is meant by active listening? 2

Active listening is the process of listening to the speaker with full attention and concentration, understanding the meaning of the message, and then responding to it with suitable questions, gestures or feedback so that the speaker feels heard and supported.

Q.(6) What is stress? Name any two stress management techniques. 1+1=2

Stress is the state of mental, emotional or physical tension that a person feels when the demands of a situation are greater than his or her ability to cope with them.

Two stress management techniques are: (i) regular physical exercise or yoga and (ii) proper time management.

(Any two correct techniques may be accepted, e.g. meditation, sufficient sleep, a healthy diet, listening to music or sharing problems with others.)

Q.(7) State any two advantages of using a word processor over handwritten documents. 1+1=2

1. A document can be edited easily — text can be inserted, deleted, copied, moved or corrected at any time — and spelling and grammar can be checked automatically.
2. The document can be saved, reused, formatted attractively and printed in any number of neat, identical copies, which is not possible with handwritten documents.

Q.(8) What is meant by a business idea? Give one example. 1+1=2

A business idea is a thought or a plan about a product or a service that an entrepreneur can offer to customers in order to satisfy their needs and earn a profit.

Example: Starting a home-delivery service for freshly cooked, healthy tiffin meals for office workers.

(Any one suitable and relevant example may be accepted.)

Answer any 4 out of the given 6 questions in 20 - 30 words each. (4 x 2 = 8)

Q.(9) Differentiate between Machine Learning and Deep Learning. 1+1=2

Machine Learning is a subset of AI in which a machine learns patterns from data with the help of algorithms, and important features are usually selected by the programmer.

Deep Learning is a subset of Machine Learning that uses multi-layered artificial neural networks to extract the features automatically from a very large amount of data.

Q.(10) Write any two rules for naming an identifier in Python

1. An identifier **must begin with a letter (A–Z or a–z) or an underscore (_)**. It cannot start with a digit.
2. An identifier **must not be a Python keyword**, such as `if`, `for`, `while`, or `class`.

Q.(11) State any two responsibilities of a Data Scientist. 1+1=2

1. Collecting, cleaning and organising large volumes of raw data so that it becomes fit for analysis.
2. Analysing the data and building statistical or machine learning models, and presenting the resulting insights to the management for better decision making.

Q.(12) Name any two AI job roles in the agriculture sector. 1+1=2

1. Precision Agriculture Specialist
2. Crop Health Monitoring Analyst

(Any two correct roles may be accepted, e.g. Agricultural Robotics Engineer or AI-based Yield Prediction Analyst.)

Q.(13) Differentiate between the ‘==’ operator and the ‘=’ operator in Python. 1+1=2

== Operator

It is a **comparison operator**.

It checks whether two values are equal.

It returns **True or False**.

Example: `5 == 5` → True

= Operator

It is an **assignment operator**.

It assigns a value to a variable.

It stores a value in a variable.

Example: `x = 5` → stores 5 in x

Q.(14) What is type casting in Python? Name any two functions used for it. 1+1=2

Type casting is the explicit conversion of the data type of a value into another data type by the programmer, with the help of built-in functions.

Two functions used for type casting are `int()` and `float()`.

(Any two correct functions may be accepted: `int()`, `float()`, `str()`, `bool()`.)

Answer any 4 out of the given 6 questions in 50 - 80 words each. (4 x 3 = 12)

Q.(15) Differentiate between Cognitive Computing and Artificial Intelligence.

Cognitive Computing	Artificial Intelligence
Focuses on simulating human thought processes such as understanding, reasoning, and learning.	Focuses on creating systems that can perform tasks requiring human intelligence.
It assists humans in decision-making rather than completely replacing them.	It can automate tasks and make decisions with minimal human involvement.
It aims to understand context, language, and human behaviour.	It uses techniques such as Machine Learning, Deep Learning, NLP, and Computer Vision.
Example: A healthcare system that assists doctors in diagnosing diseases.	Example: A self-driving car that makes driving decisions automatically.

Q.(16) Compare Artificial Narrow Intelligence, Artificial General Intelligence and Artificial Super Intelligence. 1+1+1=3

1. Artificial Narrow Intelligence (ANI): It is designed to perform one specific task very efficiently and cannot work beyond that task. It is the only stage of AI that exists today. Example: a spam filter or a voice assistant.
 2. Artificial General Intelligence (AGI): It refers to a machine that would be able to think, learn, reason and perform any intellectual task as well as a human being. It is still at the theoretical stage.
 3. Artificial Super Intelligence (ASI): It refers to a hypothetical stage at which machine intelligence would surpass human intelligence in every field, including creativity and decision making.
- (1 mark for each correct comparison point.)

Q.(17) Explain the duties of a Computer Vision Engineer and state the key technical skills required for this role. 2+1=3

Duties: A Computer Vision Engineer designs, develops and tests AI models that enable machines to acquire, process and understand images and videos. The professional works on tasks such as object detection, face recognition, image classification and video analysis, prepares and labels image datasets, trains deep-learning models and deploys them in real-time applications such as self-driving cars, medical imaging and surveillance systems.

Key technical skills: Programming in Python and C++, knowledge of deep learning and Convolutional Neural Networks, and hands-on experience with libraries and frameworks such as OpenCV, TensorFlow and PyTorch.

Q.(18) Explain any three industries in which AI is applied, naming one AI job role in each. 1+1+1=3

1. Healthcare: AI is used to analyse medical images, predict diseases at an early stage and assist patients through virtual care. AI job role: Virtual Nurse Assistant.
2. Banking and Finance: AI is used to detect fraudulent transactions, assess credit risk and provide customer support through chatbots. AI job role: Fraud Detection Analyst.

3. Agriculture: AI-powered drones and sensors are used to monitor crop health, predict yield and control the use of water and fertilisers. AI job role: Precision Agriculture Specialist.

(1 mark for each industry explained with a correct AI job role. Any three correct industries may be accepted.)

Q.(19) Explain the if, if-else and if-elif-else decision-making statements in Python with the syntax of each. 1+1+1=3

1. if statement: It executes a block of statements only when the given condition is True; otherwise the block is skipped.

```
if condition:
    statement(s)
```

2. if-else statement: It executes the first block when the condition is True and the second block when the condition is False.

```
if condition:
    statement(s)
else:
    statement(s)
```

3. if-elif-else statement: It is used when there are more than two possible conditions. The conditions are tested one after another and the block of the first True condition is executed; if none is True, the else block is executed.

```
if condition1:
    statement(s)
elif condition2:
    statement(s)
else:
    statement(s)
```

(1 mark for each statement explained with the correct syntax.)

Q.(20) Write a program to print the numbers from 1 to 10 with their squares.

for i in range(1, 11):

```
    print(i, "=", i ** 2)
for i in range(1, 11):
    print(i, "=", i ** 2)
```

Output:

```
1 = 1
2 = 4
3 = 9
4 = 16
5 = 25
6 = 36
7 = 49
8 = 64
9 = 81
10 = 100
```

******* END OF MARKING SCHEME – SET - 2 *******