



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 - 1 MARKING SCHEME

Class : XI (SCIENCE/COMMERCE/ARTS)

Date :09/09/26

Admission No. :

Time : 3 hrs.

Max Marks : 50

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

(4 x 1 = 4)

Question	Correct Answer
(i)	(b) Use of unfamiliar jargon
(ii)	(b) Body
(iii)	(b) Regular physical exercise
(iv)	(a) Header
(v)	(b) Bearing risk and organising resources
(vi)	(b) Future generations

Q.(2) Answer any 7 of 8 questions:

(7 x 1 = 7)

1. (b) John McCarthy

2. (b) Natural Language Processing (NLP)
3. (b) Analyzing and interpreting large volumes of data
4. (a) Supervised Learning
5. (c) Pocket calculator
6. (a) Artificial Narrow Intelligence (ANI)
7. (c) Using rewards and penalties to guide learning
8. True

Q.(3) Answer any 7 of 8 questions:

(7 x 1 = 7)

1. (c) Analysing spatial data using AI
2. (a) AI Ethicist
3. (a) Drones
4. (b) Creating and training machine learning models
5. (b) AI Ethicist
6. (a) Tableau and Power BI
7. (a) Fraud Detection Analyst
8. True

Q.(4) Answer any 6 of 8 questions:

(6 x 1 = 6)

Answer Key

1. (a) 5
2. (c) total_marks
3. (a) ==
4. (b) 1, 3, 5, 7, 9
5. (a) POP
6. (b) Interactive
7. True
8. (b) False

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 3 out of the given 4 questions on Employability Skills. (3 x 2 = 6)

Answer each question in 20 - 30 words.

Q.(5) State any two barriers to effective communication. 1+1=2

1. Physical or environmental barrier: Noise, poor network or a large distance between the sender and the receiver distorts the message.
 2. Language or semantic barrier: The use of difficult words, unfamiliar jargon or a language that the receiver does not understand prevents correct understanding.
- (Any two correct barriers may be accepted, e.g. cultural, emotional, organisational or interpersonal barriers.)

Q.(6) What is meant by self-motivation? Name its two types. 1+1=2

Self-motivation is the inner drive or ability of a person to begin a task and complete it on his or her own, without any pressure, reward or supervision from others.

Its two types are: (i) Intrinsic motivation and (ii) Extrinsic motivation.

Q.(7) State any two ways of maintaining a computer system for better performance.

1+1=2

1. Install a reliable antivirus programme and keep it, along with the operating system, regularly updated so that the computer stays free of viruses.
2. Delete unnecessary files, empty the Recycle Bin and remove temporary files at regular intervals so that sufficient free disk space is available.

(Any two correct points may be accepted, e.g. keeping the hardware dust-free, taking regular backups or using a UPS.)

Q.(8) Who is an entrepreneur? State any one quality of a successful entrepreneur.

1+1=2

An entrepreneur is a person who identifies a business opportunity, arranges the required resources such as money, material and manpower, and starts an enterprise by bearing the risk of profit or loss.

Quality: A successful entrepreneur is a confident risk-taker.

(Any one correct quality may be accepted, e.g. creativity, hard work, patience, leadership or decision-making ability.)

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

Q.(9) Define Artificial Intelligence. 2

Artificial Intelligence is a branch of computer science concerned with the creation of machines and software that can perform tasks which normally require human intelligence, such as learning, reasoning, problem solving, decision making and understanding language.

Q.(10) Differentiate between Artificial Narrow Intelligence (ANI) and Artificial General Intelligence (AGI). 1+1=2

Artificial Narrow Intelligence (ANI) is designed to perform only one specific task extremely well and cannot work outside that task, for example a voice assistant or a spam filter.

Artificial General Intelligence (AGI) refers to a machine that would be able to think, learn and apply its intelligence to any task like a human being. It is still a theoretical stage of AI.

Q.(11) What is Deep Learning?

Deep Learning is a branch of Machine Learning that uses artificial neural networks with multiple layers to learn patterns from large amounts of data.

Example: Deep Learning is used in image recognition, speech recognition, self-driving cars, and language translation.

Q.(12) State any two technical skills required by a Machine Learning Engineer. 1+1=2

1. Strong programming skills, especially in Python, along with knowledge of libraries such as NumPy, Pandas and Scikit-learn.
2. Sound knowledge of machine learning algorithms, statistics and frameworks such as TensorFlow or Keras.

Q.(13) What is a token in Python? Name any two categories of tokens. 1+1=2

A token is the smallest individual unit of a Python program that the interpreter recognises as meaningful.

Two categories of tokens are: (i) Keywords and (ii) Identifiers.

(Any two correct categories may be accepted: keywords, identifiers, literals, operators and punctuators.)

Q.(14) Write any two rules for naming an identifier in Python. 1+1=2

1. An identifier may contain only letters (A–Z, a–z), digits (0–9) and the underscore (_), and it must not begin with a digit.
2. A Python keyword cannot be used as an identifier, and an identifier must not contain a space or any special symbol.

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

Q.(15) Explain any three application of AI.

1. **Healthcare:** AI is used to detect diseases, analyse medical images, assist doctors in diagnosis, and monitor patients.
2. **Education:** AI can provide personalised learning, automated assessments, virtual tutors, and recommendations based on students' performance.
3. **Agriculture:** AI is used to monitor crop health, predict weather and crop yields, detect diseases, and support precision farming.

Q.(16) Explain the three domains of Artificial Intelligence, giving one real-world application of each. 1+1+1=3

1. Data Science: It works with numeric and tabular data and uses statistical and machine learning techniques to find patterns and make predictions. Application: sales forecasting by a company.
 2. Computer Vision: It enables machines to acquire, process and understand images and videos. Application: face-unlock in smartphones.
 3. Natural Language Processing: It enables machines to understand and generate human language in text or speech form. Application: chatbots and Google Translate.
- (1 mark for each domain explained with a correct application.)

Q.(17) Explain the core function of an AI Ethicist and state the qualifications required for this role. 2+1=3

Core function: An AI Ethicist ensures that artificial intelligence systems are designed and used in a fair, transparent and responsible manner. The professional audits datasets and algorithms to detect bias against any gender, race or community, protects the privacy of user data, and frames ethical guidelines and policies that the development team must follow.

Qualifications: A degree in philosophy, law, ethics, social science or computer science, together with a sound understanding of AI and machine learning concepts, data-protection laws and public policy. A postgraduate degree or certification in AI ethics is preferred.

Q.(18) Explain the importance of Soft skills for AI professionals and how they contribute to successful AI projects.

Soft skills are important for AI professionals because they help them **communicate, collaborate, solve problems, and work effectively in teams.**

Some important soft skills are:

1. **Communication:** Helps AI professionals explain complex technical concepts clearly to clients, team members, and users.
2. **Teamwork:** AI projects often involve data scientists, developers, designers, and domain experts. Teamwork helps everyone work together effectively.
3. **Problem-Solving:** Helps professionals identify problems, think creatively, and find suitable AI-based solutions.
4. **Critical Thinking:** Helps in analysing data, evaluating AI models, and making logical decisions.
5. **Adaptability:** AI technology changes rapidly, so professionals need to learn new tools, techniques, and technologies.

Q.(19) Explain the three features of Python.

1. **Easy to Learn:** Python has a simple and readable syntax, making it easy for beginners to learn and understand.
2. **Interpreted Language:** Python executes code line by line, which makes testing and debugging programs easier.
3. **Platform Independent:** Python programs can run on different operating systems such as Windows, macOS, and Linux with little or no modification.

Q.(20) Write a Python program to print a table of 15 with proper format.

Program to print the multiplication table of 15

for i in range(1, 11):

print(f"15 × {i} = {15 * i}")

Program to print the multiplication table of 15

for i in range(1, 11):

print(f"15 × {i} = {15 * i}")

Output:

```
15 × 1 = 15
15 × 2 = 30
15 × 3 = 45
15 × 4 = 60
15 × 5 = 75
15 × 6 = 90
15 × 7 = 105
15 × 8 = 120
15 × 9 = 135
15 × 10 = 150
```

******* END OF MARKING SCHEME – SET - 1 *******