



BK BIRLA CENTRE FOR EDUCATION
SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL
ANNUAL EXAMINATION 2024-25
ARTIFICIAL INTELLIGENCE (417)



Class: IX
Date: 22.02.2025
Name:

Duration: 2 hrs.
Max Marks: 50
Exam No. :

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of 21 questions in two sections: Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. All questions of a particular section must be attempted in the correct order.
5. **SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):**
 - i. This section has 05 questions.
 - ii. Marks allotted are mentioned against each question/part.
 - iii. There is no negative marking.
 - iv. Do as per the instructions given.
6. **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.

SECTION A: OBJECTIVE TYPE QUESTIONS

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

- (i) For successful communication, it is important that the sender keeps his message free from :
- | | |
|----------------------|-----------------------|
| (a) Prejudice | (b) Complexity |
| (c) Both (a) and (b) | (d) None of the above |
- (ii) Improving your self management skills :
- | | |
|----------------------------|-----------------------------|
| (a) Builds your confidence | (b) Helps in making friends |
| (c) Both (a) and (b) | (d) None of the above |
- (iii) Which of the following shows your ability to participate as a member of a team ?
- | | |
|-------------------------|-------------------------|
| (a) Interpersonal skill | (b) Communication skill |
| (c) Both (a) and (b) | (d) None of the above |
- (iv) Which device allows you to collect the hard copy from ?
- | | |
|--------------|-----------------------|
| (a) Printer | (b) Scanner |
| (c) Joystick | (d) None of the above |
- (v) A person who starts an enterprise is :
- | | |
|------------------|-----------------------|
| (a) Manager | (b) Organiser |
| (c) Entrepreneur | (d) None of the above |
- (vi) Which of the following should be our motto to reduce pollution ?
- | | |
|----------------------|-------------------|
| (a) Reuse | (b) Reduce |
| (c) Both (a) and (b) | (d) None of these |

Q.(2) Answer any 5 questions out of the given 6 questions.

(5 x 1 = 5)

- (i) A humanoid robot known as the first “Robot Citizen” is called
 - (a) Sophia
 - (b) Clarke
 - (c) Roomba
 - (d) Eliza
- (ii) What is Artificial Intelligence ?
 - (a) Putting your intelligence into the computer
 - (b) Programming with your own intelligence
 - (c) Making a machine intelligent
 - (d) Adding more memory to the computer
- (iii) Who is called the Father of Artificial Intelligence ?
 - (a) John McCarthy
 - (b) Herbort Simon
 - (c) Allen Newell
 - (d) Allan Turing
- (iv) Which of the following companies is working on driverless car ?
 - (a) Tesla
 - (b) Ampere
 - (c) Joule
 - (d) Amazon
- (v) Transportation apps like Uber use which of the following to find the fastest route ?
 - (a) Driver calls the traffic department to know congestion free route.
 - (b) Driver listens to the radio and gets regular updates on traffic.
 - (c) Driver surfs through AI enabled maps like google maps on smartphone.
 - (d) Driver asks for suggestions from the client.
- (vi) A program that is used to detect unsolicited and unwanted email and prevent those messages from getting to a user’s inbox.
 - (a) Auto response
 - (b) Spam Filter
 - (c) Email Filter
 - (d) email Blocker

Q.(3) Answer any 5 questions out of the given 6 questions.

(5 x 1 = 5)

- (i) Priya went to her hometown. Her hometown does not have all the facilities that are available in the urban area. She has gone there to select a problem which she can help solve there. This is which step of a project cycle.
 - (a) Problem Scoping
 - (b) Evaluation
 - (c) Data acquisition
 - (d) Modelling
- (ii) Which of the following comes under Problem Scoping ?
 - (a) System Mapping
 - (b) 4Ws Canvas
 - (c) Data Features
 - (d) Web Scraping
- (iii) is the presentation of data in graphical format.
 - (a) Data Exploration
 - (b) Data Visualisation
 - (c) Data Modelling
 - (d) Data Presentation
- (iv) A flowchart needs to represent the situation where for each mark a student is awarded “Pass” or “Fail” the system will consider the mark and if it’s 50 or over award “Pass”, else it awards “Fail”. This is an example of which of the algorithm constructs ?
 - (a) Decision
 - (b) Loop
 - (c) Sequence
 - (d) all of the above
- (v) Which of the following is a pictorial representation of an algorithm ?
 - (a) Pseudocode
 - (b) Program
 - (c) Flowchart
 - (d) Algorithm
- (vi) In a flowchart how are symbols connected ?
 - (a) Symbols do not get connected together in a flowchart
 - (b) With lines and an arrow to show the direction of flow
 - (c) With dashed lines and numbers
 - (d) With solid lines to link events

Q.(4) Answer any 5 questions out of the given 6 questions. (5 x 1 = 5)

- (i) Which one of the following is not an advantage of machine learning ?
(a) Easily identifies trends and patterns (b) No human intervention required
(c) Handling multidimensional and multi variety data
(d) Data Acquisition
- (ii) A method used to enable machines to classify/predict objects, problems or situations based on labelled data fed to the machine is called
(a) Unsupervised learning (b) Supervised learning
(c) Decision Trees (d) None of the above
- (iii) learning mimics the network of neurons in a brain.
(a) Machine (b) Deep
(c) Reinforcement (d) Supervised
- (iv) The fundamental unit of neural network is
(a) Brain (b) Nucleus
(c) Neuron (d) Axon
- (v) Which of the following is an application of neural network ?
(a) Sales forecasting (b) Fraud detection
(c) Speech recognition (d) All of the above
- (vi) A is a decision support tool that uses a tree-like graph or model of decisions and their possible consequences, including chance event outcomes, resource costs and utility.
(a) Decision tree (b) Graphs
(c) Trees (d) Neural networks

Q.(5) Answer any 5 questions out of the given 6 questions. (5 x 1 = 5)

- (i) What is a variable ?
(a) A box (memory location) where you store values
(b) A type of graphics
(c) Data type (d) A type of memory
- (ii) A expression is an expression that is either True or False.
(a) Boolean (b) Truth (c) Variable (d) Conditional
- (iii) In programming, what is iteration ?
(a) The repetition of steps within a program
(b) The order in which instructions are carried out
(c) A decision point in a program
(d) Testing a program to make sure it works
- (iv) What type of loop is used when you know how many times you want to repeat something ?
(a) A WHILE loop (b) An IF function (c) A FOR loop (d) A variable
- (v) Joining elements together to make a string is called what ?
(a) Combining (b) Connecting (c) Concatenation (d) Stringing
- (vi) Which of these is best description of a list in Python ?
(a) A list is a collection of data that has an order and can be changed
(b) A list is a lot of variables
(c) A list is used for shopping
(d) A list is a collection of data that cannot hold duplicated data and cannot be changed

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 3 out of the given 5 questions on Employability Skills

(3 x 2 = 6)

- Q. (6) Explain the elements of communication cycle ?
Q. (7) Define self-management skills. Explain three broad areas influenced by self-management.
Q. (8) What is the difference between hardware and software, in terms of physical existence ?
 Explain by giving suitable example.
Q. (9) Explain any four rewards of entrepreneurship.
Q. (10) Explain any four factors which cause imbalance in the environment.

Answer any 4 out of the given 6 questions on Subject Specific Skills.

(4 x 2 = 8)

- Q.(11) Write any two advantages and disadvantages each of AI.
Q.(12) How is AI being used in our daily lives ? Write and explain any three uses.
Q.(13) Differentiate between an algorithm and Flowchart. (at least two differences)
Q.(14) Write at least two differences between Supervised and Unsupervised learning.
Q.(15) Write any four features of Python.
Q.(16) Define a string. Define an escape sequence used in Python. Give examples.

Answer any 3 out of the given 5 questions on Subject Specific Skills.

(3 x 4 = 12)

- Q.(17) What is AI winters ? Differentiate between Narrow AI and General AI.
Q.(18) Explain spam filter. Name and explain any four applications of Artificial Intelligence.
Q.(19) Write an algorithm and draw flowchart to convert temperature from Celsius to Fahrenheit.
 $F = (9 \times C / 5 + 32)$
Q.(20) Write programs in Python for the following :
 (a) To input two numbers and display their sum and product
 (b) To calculate simple interest by inputting the value of Principal amount, rate and time.
Q.(21) Write programs in Python for the following :
 (a) To print table of a given number.
 (b) Write a program using while loop that asks the user for a number, and prints a
 countdown from that number to zero.

***** ALL THE BEST *****