

# OPTION I: ARTIFICIAL INTELLIGENCE

## Instructions:

**Exam Format:** NDDC overseas scholarship test was conducted by Cinfores-Ltd, between 2010 and 2015. Since 2016, the tests are now conducted by MEIL (MARG Educational International Limited).

The test usually comprises of 2 sections –

1. General questions which everyone will have to sit, and
2. Discipline-based questions.

For example, candidates in Engineering and Science related disciplines could take a mix of science-based questions like maths, English, physics and chemistry for part 1, then discipline-specific questions for part 2, 2016 and 2017 tests contained more discipline-specific tests and English language test as general paper. The test usually lasts between 30 to 60 minutes.

**Read Carefully:** Read each question carefully before selecting your answer. Pay attention to any specific details or numerical data provided in the question.

1. What is the full form of “AI”?

- a) Artificially Intelligent
- b) Artificial Intelligence
- c) Artificially Intelligence
- d) Advanced Intelligence

**Answer: b**

**Explanation:** AI is abbreviated as Artificial Intelligence. It is used to create systems or build machines to think and work like humans.

## 2. What is Artificial Intelligence?

- a) Artificial Intelligence is a field that aims to make humans more intelligent
- b) Artificial Intelligence is a field that aims to improve the security
- c) Artificial Intelligence is a field that aims to develop intelligent machines
- d) Artificial Intelligence is a field that aims to mine the data

**Answer: c**

**Explanation:** Artificial Intelligence is the development of intelligent systems that work and react in the same way that humans do. Intelligence is a process or a component of the ability to achieve goals in the world. People, animals, and a few machines all have different types and degrees of intelligence.

## 3. Who is the inventor of Artificial Intelligence?

- a) Geoffrey Hinton
- b) Andrew Ng
- c) John McCarthy
- d) Jürgen Schmidhuber

**Answer: c**

**Explanation:** John McCarthy was a pioneer in Artificial Intelligence research, helping to name the field and spending decades teaching computers to grasp concepts that are intuitive to humans.

## 4. Which of the following is the branch of Artificial Intelligence?

- a) Machine Learning
- b) Cyber forensics

- c) Full-Stack Developer
- d) Network Design

**Answer: a**

**Explanation:** Machine learning is one of the important sub-areas of Artificial Intelligence likewise Neural Networks, Computer Vision, Robotics, and NLP are also the sub-areas. In machine learning, we build or train ML models to do certain tasks.

**5.** What is the goal of Artificial Intelligence?

- a) To solve artificial problems
- b) To extract scientific causes
- c) To explain various sorts of intelligence
- d) To solve real-world problems

**Answer: c**

**Explanation:** Artificial Intelligence's goal is to explain various sorts of intelligence.

**6.** Which of the following is an application of Artificial Intelligence?

- a) It helps to exploit vulnerabilities to secure the firm
- b) Language understanding and problem-solving (Text analytics and NLP)
- c) Easy to create a website
- d) It helps to deploy applications on the cloud

**Answer: b**

**Explanation:** Language understanding and problem-solving come under the NLP and Text Analysis area which involves text recognition and sentiment analysis of the text. NLP ML model is trained to mainly

do the task which processes human language's speech or text. For example voice assistant.

7. In how many categories process of Artificial Intelligence is categorized?

- a) categorized into 5 categories
- b) processes are categorized based on the input provided
- c) categorized into 3 categories
- d) process is not categorized

**Answer: c**

**Explanation:** It is categorized into 3 steps Sensing, Reasoning, Acting

i) Sensing: Through the sensor taking in the data about the world

ii) Reasoning: Reasoning is thinking or processing the data sensed by the sensor.

iii) Action: On the basis of input and reasoning, acting is generating and controlling actions in the environment.

8. Based on which of the following parameter Artificial Intelligence is categorized?

- a) Based on functionally only
- b) Based on capabilities only
- c) Based on capabilities and functionally
- d) It is not categorized

**Answer: c**

**Explanation:** The two main categorizations of AI are based on the capability and functionality. Based on capability it is divided into Artificial Narrow Intelligence (ANI), Artificial General Intelligence (AGI),

and Artificial Super Intelligence (ASI). Based on functionality it is divided into reactive machines, limited memory, theory of mind, and self-awareness.

**9.** Which of the following is a component of Artificial Intelligence?

- a) Learning
- b) Training
- c) Designing
- d) Puzzling

**Answer: a**

**Explanation:** Intelligence is intangible and is composed of mainly five techniques. Learning is the process of gaining knowledge by understanding, practicing, being taught, or experiencing one thing. Learning enhances the awareness of any topic, hence learning is one of the important components.

**10.** What is the function of an Artificial Intelligence "Agent"?

- a) Mapping of goal sequence to an action
- b) Work without the direct interference of the people
- c) Mapping of precept sequence to an action
- d) Mapping of environment sequence to an action

**Answer: c**

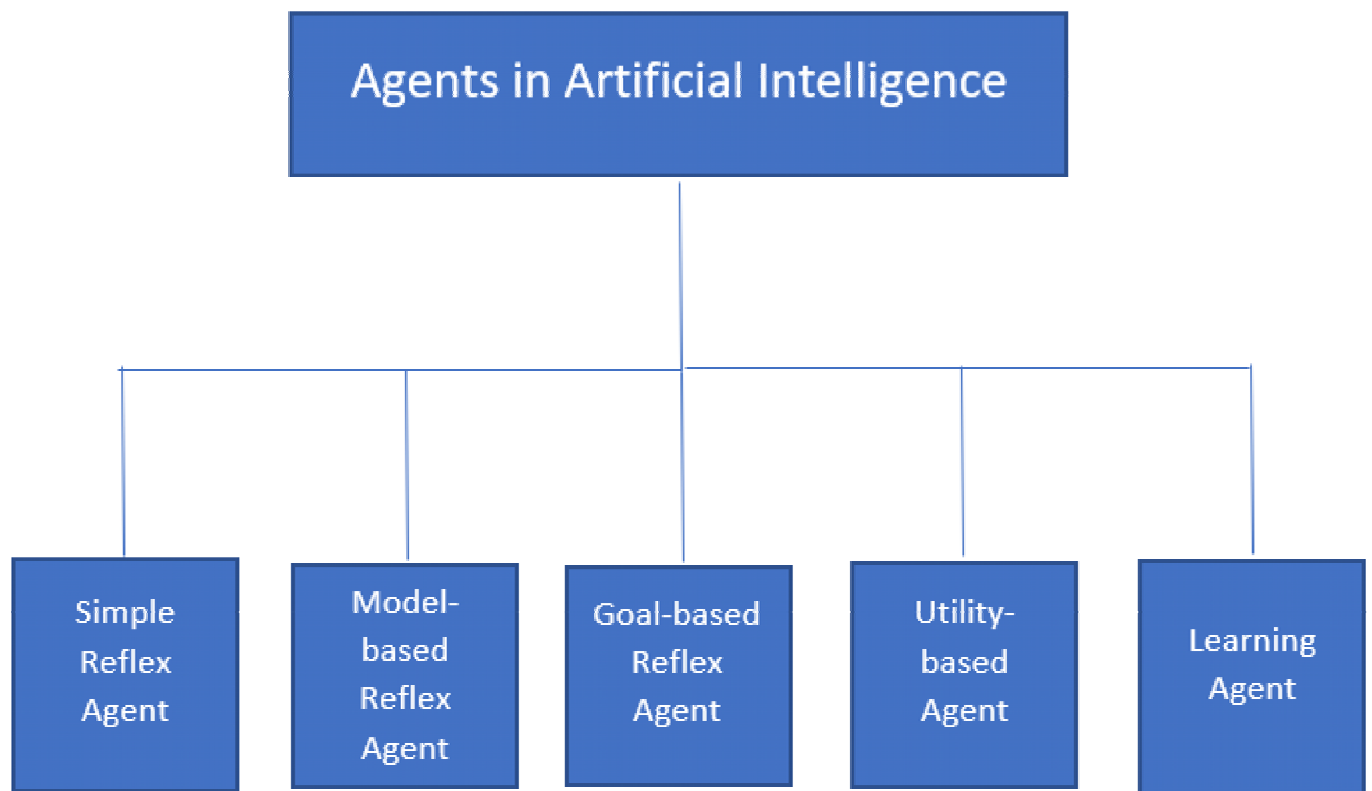
**Explanation:** A math function that converts a collection of perceptions into actions is known as the agent function. The function is implemented using agent software. An agent is responsible for the actions performed by the machine once it senses the environment.

**11.** Which of the following is not a type of Artificial Intelligence agent?

- a) Learning AI agent
- b) Goal-based AI agent
- c) Simple reflex AI agent
- d) Unity-based AI agent

**Answer: d**

**Explanation:** There are mainly 5 types of agents:



**12.** Which of the following is not the commonly used programming language for Artificial Intelligence?

- a) Perl
- b) Java
- c) PROLOG
- d) LISP

**Answer: a**

**Explanation:** Perl is a scripting language. Whereas other programming languages are used to program AI machines.

**13.** What is the name of the Artificial Intelligence system developed by Daniel Bobrow?

- a) program known as BACON
- b) system known as STUDENT
- c) program known as SHRDLU
- d) system known as SIMD

**Answer: b**

**Explanation:** STUDENT is the name of the Artificial Intelligence system developed by Daniel Bobrow in **1964**. Daniel Bobrow had used LISP programming language to write this AI program for his PhD thesis.

**14.** What is the function of the system Student?

- a) program that can read algebra word problems only
- b) system which can solve algebra word problems but not read
- c) system which can read and solve algebra word problems
- d) None of the mentioned

**Answer: c**

**Explanation:** The system STUDENT developed by Daniel Bobrow was written in LISP to read and solve algebra word problems of high school books. This is referred as the achievement in the field of Natural Language Processing.

**15.** Which of the following is not an application of artificial intelligence?

- a) Face recognition system
- b) Chatbots
- c) LIDAR
- d) DBMS

**Answer: d**

**Explanation:** Face recognition system, Chatbots, and LIDAR are the various applications of AI in various fields like security system, business, automobiles etc. DBMS is used to store and manipulate data.

**16.** Which of the following machine requires input from the humans but can interpret the outputs themselves?

- a) Actuators
- b) Sensor
- c) Agents
- d) AI system

**Answer: d**

**Explanation:** Actuators are used in machines to convert energy from one form to another to perform a physical function. The sensor is a device that receives signals from the physical environment to detect the changes. Systems receive input from humans and interpret the outputs.

**17.** \_\_\_\_\_ number of informed search method are there in Artificial Intelligence.

- a) **4**



- b) **3**
- c) **2**
- d) **1**

**Answer: a**

**Explanation:** There are four types of informed search methods. The four types of informed search method are best-first search, Greedy best-first search, A\* search and memory bounded heuristic search.

**18.** The total number of proposition symbols in AI are \_\_\_\_\_

- a) **3** proposition symbols
- b) **1** proposition symbols
- c) **2** proposition symbols
- d) No proposition symbols

**Answer: c**

**Explanation:** There are totally **2** proposition symbols. The two proposition symbols are true and false.

**19.** The total number of logical symbols in AI are \_\_\_\_\_

- a) There are **3** logical symbols
- b) There are **5** logical symbols
- c) Number of logical symbols are based on the input
- d) Logical symbols are not used

**Answer: b**

**Explanation:** There are totally five logical symbols. The five logical symbols are:

- a) Negation
- b) Conjunction

- c) Disjunction
- d) Implication
- e) Biconditional

**20.** Which of the following are the approaches to Artificial Intelligence?

- a) Applied approach
- b) Strong approach
- c) Weak approach
- d) All of the mentioned

**Answer: d**

**Explanation:** Strong AI is used to build machines that can truly reason and solve problems.

Weak AI deals with building computer-based Artificial Intelligence that can act as if it were intelligent but cannot truly reason and solve problems. Applied approach creates commercially viable “smart” systems.

In the Cognitive approach, a computer is used to test theories about how the human mind works.

**21.** Face Recognition system is based on which type of approach?

- a) Weak AI approach
- b) Applied AI approach
- c) Cognitive AI approach
- d) Strong AI approach

**Answer: b**

**Explanation:** Applied approach aims to produce commercially viable “smart” systems such as, for example, a security system that

recognizes the faces of people to provide access. The applied approach has already enjoyed considerable success.

**22.** Which of the following is an advantage of artificial intelligence?

- a) Reduces the time taken to solve the problem
- b) Helps in providing security
- c) Have the ability to think hence makes the work easier
- d) All of the above

**Answer: d**

**Explanation:** Artificial intelligence creates a machine that can think and make decisions without human involvement.

**23.** Which of the following can improve the performance of an AI agent?

- a) Perceiving
- b) Learning
- c) Observing
- d) All of the mentioned

**Answer: b**

**Explanation:** An AI agent learns from previous states by saving it and responding to the same situation better if it occurs again in the future. Hence, learning can improve the performance of an AI agent.

**24.** Which of the following is/are the composition for AI agents?

- a) Program only
- b) Architecture only

- c) Both Program and Architecture
- d) None of the mentioned

**Answer: c**

**Explanation:** An AI agent program will implement function mapping percepts to actions.

**25.** On which of the following approach A basic line following robot is based?

- a) Applied approach
- b) Weak approach
- c) Strong approach
- d) Cognitive approach

**Answer: b**

**Explanation:** Weak approach is concerned with the development of a computer-based artificial intelligence that can behave intelligently but cannot really reason or solve issues. According to Weak approach, properly configured computers can mimic human intellect.

**26.** Artificial Intelligence has evolved extremely in all the fields except for \_\_\_\_\_

- a) Web mining
- b) Construction of plans in real time dynamic systems
- c) Understanding natural language robustly
- d) All of the mentioned

**Answer: d**

**Explanation:** Artificial Intelligence is used in all the fields to make