19CAU36A

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCA DEGREE EXAMINATION MAY 2022
(Sixth Semester)

Branch – **COMPUTER APPLICATIONS**

DISCIPLINE SPECIFIC ELECTIVE – II : ROBOTICS

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 1 = 10)

1 Which among the following is not the functionality of robots?
(i) Reprogrammable (ii) Multi functionality
(iii) Efficient (iv) Responsibility

2 What is AGV?
(i) Automated guided Vehicle (ii) Automated grid Vehicle
(iii) Automated grid Van (iv) Automatic guided Vehicle

3 Which part of the robots provides motion to the manipulator and end effectors?
(i) Controller (ii) Sensor
(iii) Actuator (iv) None of the above

4 What is the name of the kinematic part of the robot ?
(i) Links (ii) joints
(iii) end effectors (iv) sensors

5 Why do the robot need sensor?
(i) To collect information from environment
(ii) To map environment attribute to a quantitative measurement
(iii) only option 1 is true
(iv) Both option 1 and 2 are true

6 Which one is correct proximity sensor?
(i) inductive type (ii) capacitive type
(iii) ultrasonic type (iv) All of mentioned

7 Which of the following is the geometrical configuration of robot?
(i) Cylindrical configuration (ii) Polar configuration
(iii) Both A & B (iv) None

8 Which of the following is robot programming language?
(i) VAL (ii) AML
(iii) ABD (iv) Both A & B

9 Which equation is suitable for forming Internet of Things
(i) physical object + controller sensor and actuator + internet
(ii) controller sensor and actuator + internet
(iii) physical object + internet
(iv) Physical object + controller + internet

10 What are the main components of IoT
(i) Low Power Embedded System (ii) Cloud Computing
(iii) Availability of Bigdata , Networking Connections (iv) All of the above

Cont...

SECTION - B (25 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 x 5 = 25)

11 a Compare between robot and an automated machine.

OR

b Describe the objectives of the Industrial robots.

12 a List the desirable capabilities of robot system.

OR

b Explain the various general aspects of end connectors.

13 a List out the characteristics of sensors.

OR

b Describe the working principle of position sensor.

14 a Explain machine vision system with a sketch.

OR

b List out the Robot programming languages.

15 a Explain the architecture of IoT.

OR

b List out the Various IoT Applications.

SECTION -C (40 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 x 8 = 40)

16 a Classify the robot configurations according to the coordinate system.

OR

b Discover the various parts of robot with neat sketch.

17 a Describe the various classifications of grippers.

OR

b Discuss the various types of gripper mechanisms.

18 a Enumerate the working principle of Range sensor with neat sketch.

OR

b Discuss about proximity sensor with neat sketch.

19 a Explain robot programming languages in detail.

OR

b Describe about machine vision system of robot.

20 a Summarize the IoT applications in industries.

OR

b Elaborate the various IoT applications in Home Appliances.

Z-Z-Z END