

9. Touch sensors provide a _____ output signal CO2 [K₁]
a) Binary b) Octal
c) Analog d) Digital
10. What is the name for the space inside which a robot unit operates? CO2 [K₁]
a) Work envelop b) Environment
c) Danger zone d) Spatial base

PART B (10 x 2 = 20 Marks)

11. What is Robot Anatomy? CO2 [K₁]
12. What are the different types of sensors used in robots? CO1 [K₁]
13. List out the four common robot configurations CO2 [K₁]
14. Define transducers. CO1 [K₁]
15. What is sampling? CO2 [K₁]
16. What are the types of knowledge required for problem representation in AI? CO3 [K₂]
17. List out the Safety in Robotics. CO2 [K₁]
18. Define AI. CO1 [K₁]
19. Point out the Industrial applications of robots. CO2 [K₁]
20. What is KBES? CO2 [K₁]

PART C (6 x 5 = 30 Marks)

21. List the different internal and external sensors that can be used in designing a robot arm. CO2 [K₃]
22. Explain the function of analog transducers. CO1 [K₁]
23. Illustrate the function of precision of movement. CO3 [K₁]
24. Explain the function of electric drives used in robot systems. CO2 [K₂]

25. How can robots be controlled? Explain briefly. CO2 [K₂]

26. Explain the goals of AI research. CO3 [K₁]

PART D (4 x 10 = 40 Marks)

27. Identify the different robot drive systems are used in robotic and explain each systems. CO3 [K₁]

28. Describe the end effectors require power to operate in power, signal transmission and explain each system. CO2 [K₂]

29. With suitable example, Explain the various arrangements of robot work cells. CO2 [K₁]

30. What are the possible robot applications in manufacturing industries? Classify such robots from the view points of drives and controls and explain. CO2 [K₁]
