

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FOURTH SEMESTER B.TECH DEGREE EXAMINATION (R&S), MAY 2019

Course Code: MR202

Course Name: SENSORS AND ACTUATORS (MC)

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions. Each question carries 5 marks

- | | | |
|---|--|---|
| 1 | Write a short note on industrial prime movers | 5 |
| 2 | Give a brief description about adsorption driers | 5 |
| 3 | With a neat sketch explain 4/2 poppet valve | 5 |
| 4 | Compare static seal and dynamic seal | 5 |
| 5 | With a neat sketch explain fail up actuator | 5 |
| 6 | Evaluate flapper nozzle | 5 |
| 7 | Appraise any two feedback devices | 5 |
| 8 | Interpret different types of fluid sensors | 5 |

PART B

Answer any three questions. Each question carries 10 marks

- | | | |
|----|--|----|
| 9 | Compare in detail about the electrical, hydraulic, pneumatic system | 10 |
| 10 | Interpret briefly about all types of piston compressor with the help of neat diagram | 10 |
| 11 | Illustrate the working of | 10 |
| | (i) Lobe compressor | |
| | (ii) Liquid ring compressor | |
| 12 | List out any 3 application of check valves | 10 |
| 13 | Discuss in detail about meter in speed control technique in rotary actuators | 10 |

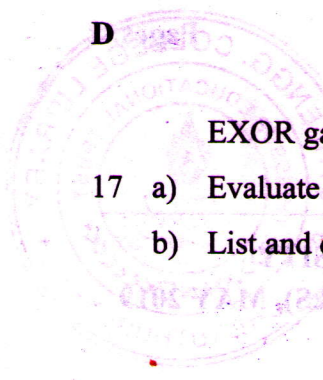
PART C

Answer any two questions. Each question carries 15 marks

- | | | |
|----|---|----|
| 14 | Write a short note on | |
| | a) PI converter | 8 |
| | b) Air relay | 7 |
| 15 | Summarise on | |
| | a) Volume booster | 7 |
| | b) PID controller | 8 |
| 16 | Illustrate with suitable diagrams and truth table of bistable flip flop, OR, NOR, | 15 |

EXOR gates

- 17 a) Evaluate the working of stepping motor 5
- b) List and explain various types of fluidic logic gates 10



Course Name: SENSORS AND ACTUATORS (MC)
 Course Code: MRS02

Duration: 3 Hours Total Marks: 100

PART A

Answer all questions. Each question carries 2 marks

- 1. Write a short note on industrial drive motors. 2
- 2. Give a brief description about absorption diodes. 2
- 3. With a neat sketch explain the 4/3 poppet valve. 2
- 4. Compare static seal and dynamic seal. 2
- 5. With a neat sketch explain the up actuator. 2
- 6. Evaluate finger sensors. 2
- 7. Explain any two feedback devices. 2
- 8. Infer the different types of fluid sensors. 2

PART B

Answer any three questions. Each question carries 10 marks

- 9. Compare in detail about the electrical, hydraulic, pneumatic system. 10
- 10. Explain briefly about the types of piston compressor with the help of neat diagram. 10
- 11. Illustrate the working of (i) vane compressor. 10
- 12. (ii) liquid ring compressor. 10
- 13. List out any 3 applications of check valve. 10
- 14. Discuss in detail about the speed control technique in rotary actuators. 10

PART C

Answer any two questions. Each question carries 12 marks

- 14. Write a short note on (a) ... 12
- 15. ... 12
- 16. ... 12