

Code No: 54646

Set No. 1

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

II B.Tech. II Sem., II Mid-Term Examinations, April – 2014

SENSORS AND SIGNAL CONDITIONING

Objective Exam

Name: _____ **Hall Ticket No.**

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. Excitation and amplification is needed for _____ []
A. Active transducers B. Passive transducers C. both A & B D. None
2. Which of the following is not a self generated sensor []
A. Thermocouple B. Piezoelectric sensor C. Photo voltaic cells D. None
3. A frequency response of a charge amplifier is similar to _____ transducer []
A. Piezoelectric B. Passive C. Inductive D. Capacitive
4. A linear displacement sensor of digital type normally uses []
A. Binary code B. BCD C. Gray code D. Hexa decimal code
5. For which of the following the accelerometer has charge sensitivity S_q (C/g) the voltage amplifier yields []
A. charge amplifier B. voltage amplifier C. current amplifier D. none of the above
6. Which of the following is not a Peizo-electric material []
A. Ammonium dihydrogen phosphate B. Lithium Sulphate
C. Copper Sulphate D. Quartz
7. Resistors dissipate power according to Joule's law, and the resulting temperature increase depends on heat transmission by _____ []
A. conduction B. convection C. radiation D. all the above
8. _____ Sensors yield an electric potential in response to a concentration change in a chemical sample. []
A. reactance variation sensors B. self-generating sensors
C. digital sensors D. Potentiometric electrochemical
9. _____ Sensors use an applied voltage to yield an electric current in response to a concentration change in a chemical sample. []
A. Amperometric B. Potentiometric C. digital D. Ion-selective electrodes
10. _____ obtain analog signals from digitally coded angles. []
A. Digital-to-Synchro converters (DSCs) B. digital-to-resolver converters (DRCs)
C. both A & B D. None

Cont.....2

II Fill in the blanks:

11. AC amplifier is preferred over dc amplifier for signal conditioning because _____ problems can be eliminated.
12. Materials used for piezoelectric sensor is _____
13. Generation of electrical potential when the radiation is incident on a semi conductor is called _____ effect.
14. A charge amplifier can be described by connecting as an op-amp with _____ feedback
15. Output of a digital linear displacement sensor is represented by _____ code.
16. The maximum body temperature is called _____ and usually occurs in the middle of the resistor
17. _____ sensors are based on Peltier effect and the Thomson effects that are reversible as contrasted with the irreversible Joule effect.
18. The _____ effect is the generation of an electric potential when the radiation ionizes a region where there is a potential barrier
19. The third group of digital sensors use modulating sensors included in _____ oscillators.
20. Sensors based on a resonant physical phenomenon yield an output frequency that depends on a _____ affecting the oscillation frequency.

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Set No. 2

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

II B.Tech. II Sem., II Mid-Term Examinations, April – 2014

SENSORS AND SIGNAL CONDITIONING

Objective Exam

Name: _____ **Hall Ticket No.**

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. A linear displacement sensor of digital type normally uses []
A. Binary code B. BCD C. Gray code D. Hexa decimal code
2. For which of the following the accelerometer has charge sensitivity S_q (C/g) the voltage amplifier yields []
A. charge amplifier B. voltage amplifier C. current amplifier D. none of the above
3. Which of the following is not a Peizo-electric material []
A. Ammonium dihydrogen phosphate B. Lithium Sulphate
C. Copper Sulphate D. Quartz
4. Resistors dissipate power according to Joule's law, and the resulting temperature increase depends on heat transmission by _____ []
A. conduction B. convection C. radiation D. all the above
5. _____ Sensors yield an electric potential in response to a concentration change in a chemical sample. []
A. reactance variation sensors B. self-generating sensors
C. digital sensors D. Potentiometric electrochemical
6. _____ Sensors use an applied voltage to yield an electric current in response to a concentration change in a chemical sample. []
A. Amperometric B. Potentiometric C. digital D. Ion-selective electrodes
7. _____ obtain analog signals from digitally coded angles. []
A. Digital-to-Synchro converters (DSCs) B. digital-to-resolver converters (DRCs)
C. both A & B D. None
8. Excitation and amplification is needed for []
A. Active transducers B. Passive transducers C. both A & B D. None
9. Which of the following is not a self generated sensor []
A. Thermocouple B. Piezoelectric sensor C. Photo voltaic cells D. None
10. A frequency response of a charge amplifier is similar to _____ transducer []
A. Piezoelectric B. Passive C. Inductive D. Capacitive

Cont.....2

II Fill in the blanks:

11. A charge amplifier can be described by connecting as an op-amp with _____ feedback
12. Output of a digital linear displacement sensor is represented by _____ code.
13. The maximum body temperature is called _____ and usually occurs in the middle of the resistor
14. _____ sensors are based on Peltier effect and the Thomson effects that are reversible as contrasted with the irreversible Joule effect.
15. The _____ effect is the generation of an electric potential when the radiation ionizes a region where there is a potential barrier
16. The third group of digital sensors use modulating sensors included in _____ oscillators.
17. Sensors based on a resonant physical phenomenon yield an output frequency that depends on a _____ affecting the oscillation frequency.
18. AC amplifier is preferred over dc amplifier for signal conditioning because _____ problems can be eliminated.
19. Materials used for piezoelectric sensor is _____
20. Generation of electrical potential when the radiation is incident on a semi conductor is called _____ effect.

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Set No. 3

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II B.Tech. II Sem., II Mid-Term Examinations, April – 2014

SENSORS AND SIGNAL CONDITIONING

Objective Exam

Name: _____ **Hall Ticket No.**

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. Which of the following is not a Piezo-electric material []
A. Ammonium dihydrogen phosphate B. Lithium Sulphate
C. Copper Sulphate D. Quartz
2. Resistors dissipate power according to Joule's law, and the resulting temperature increase depends on heat transmission by _____ []
A. conduction B. convection C. radiation D. all the above
3. _____ Sensors yield an electric potential in response to a concentration change in a chemical sample. []
A. reactance variation sensors B. self-generating sensors
C. digital sensors D. Potentiometric electrochemical
4. _____ Sensors use an applied voltage to yield an electric current in response to a concentration change in a chemical sample. []
A. Amperometric B. Potentiometric C. digital D. Ion-selective electrodes
5. _____ obtain analog signals from digitally coded angles. []
A. Digital-to-Synchro converters (DSCs) B. digital-to-resolver converters (DRCs)
C. both A & B D. None
6. Excitation and amplification is needed for []
A. Active transducers B. Passive transducers C. both A & B D. None
7. Which of the following is not a self generated sensor []
A. Thermocouple B. Piezoelectric sensor C. Photo voltaic cells D. None
8. A frequency response of a charge amplifier is similar to _____ transducer []
A. Piezoelectric B. Passive C. Inductive D. Capacitive
9. A linear displacement sensor of digital type normally uses []
A. Binary code B. BCD C. Gray code D. Hexa decimal code
10. For which of the following the accelerometer has charge sensitivity S_q (C/g) the voltage amplifier yields []
A. charge amplifier B. voltage amplifier C. current amplifier D. none of the above

Cont.....2

II Fill in the blanks:

11. The maximum body temperature is called _____ and usually occurs in the middle of the resistor
12. _____ sensors are based on Peltier effect and the Thomson effects that are reversible as contrasted with the irreversible Joule effect.
13. The _____ effect is the generation of an electric potential when the radiation ionizes a region where there is a potential barrier
14. The third group of digital sensors use modulating sensors included in _____ oscillators.
15. Sensors based on a resonant physical phenomenon yield an output frequency that depends on a _____ affecting the oscillation frequency.
16. AC amplifier is preferred over dc amplifier for signal conditioning because _____ problems can be eliminated.
17. Materials used for piezoelectric sensor is _____
18. Generation of electrical potential when the radiation is incident on a semi conductor is called _____ effect.
19. A charge amplifier can be described by connecting as an op-amp with _____ feedback
20. Output of a digital linear displacement sensor is represented by _____ code.

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Set No. 4

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SENSORS AND SIGNAL CONDITIONING

Objective Exam

Name: _____ **Hall Ticket No.**

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. _____ Sensors yield an electric potential in response to a concentration change in a chemical sample. []
A. reactance variation sensors B. self-generating sensors
C. digital sensors D. Potentiometric electrochemical
2. _____ Sensors use an applied voltage to yield an electric current in response to a concentration change in a chemical sample. []
A. Amperometric B. Potentiometric C. digital D. Ion-selective electrodes
3. _____ obtain analog signals from digitally coded angles. []
A. Digital-to-Synchro converters (DSCs) B. digital-to-resolver converters (DRCs)
C. both A & B D. None
4. Excitation and amplification is needed for []
A. Active transducers B. Passive transducers C. both A & B D. None
5. Which of the following is not a self generated sensor []
A. Thermocouple B. Piezoelectric sensor C. Photo voltaic cells D. None
6. A frequency response of a charge amplifier is similar to _____ transducer []
A. Piezoelectric B. Passive C. Inductive D. Capacitive
7. A linear displacement sensor of digital type normally uses []
A. Binary code B. BCD C. Gray code D. Hexa decimal code
8. For which of the following the accelerometer has charge sensitivity S_q (C/g) the voltage amplifier yields []
A. charge amplifier B. voltage amplifier C. current amplifier D. none of the above
9. Which of the following is not a Peizo-electric material []
A. Ammonium dihydrogen phosphate B. Lithium Sulphate
C. Copper Sulphate D. Quartz
10. Resistors dissipate power according to Joule's law, and the resulting temperature increase depends on heat transmission by _____ []
A. conduction B. convection C. radiation D. all the above

Cont.....2

II Fill in the blanks:

11. The _____ effect is the generation of an electric potential when the radiation ionizes a region where there is a potential barrier
12. The third group of digital sensors use modulating sensors included in _____ oscillators.
13. Sensors based on a resonant physical phenomenon yield an output frequency that depends on a _____ affecting the oscillation frequency.
14. AC amplifier is preferred over dc amplifier for signal conditioning because _____ problems can be eliminated.
15. Materials used for piezoelectric sensor is _____
16. Generation of electrical potential when the radiation is incident on a semi conductor is called _____ effect.
17. A charge amplifier can be described by connecting as an op-amp with _____ feedback
18. Output of a digital linear displacement sensor is represented by _____ code.
19. The maximum body temperature is called _____ and usually occurs in the middle of the resistor
20. _____ sensors are based on Peltier effect and the Thomson effects that are reversible as contrasted with the irreversible Joule effect.