

Code No: 56075

Set No. 1

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

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

ANALYTICAL INSTRUMENTATION

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. Atomic Absorption Spectroscopy is used in \_\_\_\_\_ [     ]  
A) Clinical analysis    B) Pharmaceuticals    C) water analysis    D) all
2. The heart of spectrometer is \_\_\_\_\_ [     ]  
A) Detector                B) Ion source                C) Mass analyzer    D) GM tube
3. In GM counter the tube is filled with \_\_\_\_\_ [     ]  
A) Hydrogen                B) Neon                        C) Argon                        D) Nitrogen
4. The most common spectrometers are used in \_\_\_\_\_ region [     ]  
A) IR                        B) UV                        C) Visible                        D) C and D
5. The absorption of double beam spectrometer is obtained by the output \_\_\_\_ [     ]  
A)  $E_0 = K \log I/I_0$     B)  $E_0 = K \log I_0/I$     C)  $E_0 = C \log I/I_0$     D) None
6. \_\_\_\_\_ is the application of ESR [     ]  
A) Study of free radicals                B) Investigation of molecules in the triple state  
C) Study of inorganic components    D) All of the above
7. A Mass spectrometer consists of \_\_\_\_ [     ]  
A) an ion source                B) a mass analyzer                C) a detector                        D) All of the above
8. A potential of \_\_\_\_ to \_\_\_\_ volts is applied to anode of GM tube [     ]  
A) 800-2500                B) 600-1000                C) 100-1000                D) 0-100
9. \_\_\_\_\_ is the technology for studying materials with unpaired electrons [     ]  
A) NMR                        B) ESR                        C) Both A and B                D) None
10. APC is combination of mechanism of \_\_\_\_ [     ]  
A) GM tube & Mass analyzer                B) Mass analyzer & Ionization chamber  
C) GM tube & Ionization chamber                D) Ionizer & Mass analyzer

Cont.....2

**II Fill in the blanks**

11. Visible spectro photometer typically measures in the visible region of the \_\_\_\_\_
12. Atomic absorption spectrometry can be used to determine over \_\_\_\_\_ elements
13. Time domain NMR spectrometers operates at \_\_\_\_\_ to \_\_\_\_\_ Hz.
14. Solid state detector also called as \_\_\_\_\_
15. GM counter was invented by \_\_\_\_\_ and \_\_\_\_\_
16. The outer chamber wall in ionization chamber acts as a \_\_\_\_\_
17. The \_\_\_\_\_ is the part of the mass spectrometer that ionizes the material under analysis.
18. The rotation of the nuclear axis around the direction of the external field is called \_\_\_\_\_
19. Absorption filters give \_\_\_\_\_ degree of monochromaticity than the interference filters
20. In flame emission spectroscopy the source of excitation is \_\_\_\_\_

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Set No. 2

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

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ANALYTICAL INSTRUMENTATION

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

**I Choose the correct alternative:**

1. The most common spectrometers are used in \_\_\_\_\_ region [      ]  
A) IR                      B) UV                      C) Visible                      D) C and D
2. The absorption of double beam spectrometer is obtained by the output \_\_\_\_ [      ]  
A)  $E_0 = K \log I/I_0$       B)  $E_0 = K \log I_0/I$       C)  $E_0 = C \log I/I_0$       D) None
3. \_\_\_\_\_ is the application of ESR [      ]  
A) Study of free radicals                      B) Investigation of molecules in the triple state  
C) Study of inorganic components      D) All of the above
4. A Mass spectrometer consists of \_\_\_\_ [      ]  
A) an ion source      B) a mass analyzer      C) a detector                      D) All of the above
5. A potential of \_\_\_\_ to \_\_\_\_ volts is applied to anode of GM tube [      ]  
A) 800-2500                      B) 600-1000                      C) 100-1000                      D) 0-100
6. \_\_\_\_\_ is the technology for studying materials with unpaired electrons [      ]  
A) NMR                      B) ESR                      C) Both A and B                      D) None
7. APC is combination of mechanism of \_\_\_\_ [      ]  
A) GM tube & Mass analyzer                      B) Mass analyzer & Ionization chamber  
C) GM tube & Ionization chamber                      D) Ionizer & Mass analyzer
8. Atomic Absorption Spectroscopy is used in [      ]  
A) Clinical analysis      B) Pharmaceuticals      C) water analysis                      D) all
9. The heart of spectrometer is \_\_\_\_ [      ]  
A) Detector                      B) Ion source                      C) Mass analyzer                      D) GM tube
10. In GM counter the tube is filled with \_\_\_\_ [      ]  
A) Hydrogen                      B) Neon                      C) Argon                      D) Nitrogen

**Cont.....2**

**II Fill in the blanks**

11. Solid state detector also called as \_\_\_\_\_
12. GM counter was invented by \_\_\_\_\_ and \_\_\_\_\_
13. The outer chamber wall in ionization chamber acts as a \_\_\_\_\_
14. The \_\_\_\_\_ is the part of the mass spectrometer that ionizes the material under analysis.
15. The rotation of the nuclear axis around the direction of the external field is called \_\_\_\_\_
16. Absorption filters give \_\_\_\_\_ degree of monochromaticity than the interference filters
17. In flame emission spectroscopy the source of excitation is \_\_\_\_\_
18. Visible spectro photometer typically measures in the visible region of the \_\_\_\_\_
19. Atomic absorption spectrometry can be used to determine over \_\_\_\_\_ elements
20. Time domain NMR spectrometers operates at \_\_\_\_\_ to \_\_\_\_\_ Hz.

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Set No. 3

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

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

ANALYTICAL INSTRUMENTATION

Objective Exam

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

**I Choose the correct alternative:**

1. \_\_\_\_\_ is the application of ESR [      ]  
A) Study of free radicals      B) Investigation of molecules in the triple state  
C) Study of inorganic components      D) All of the above
2. A Mass spectrometer consists of \_\_\_\_\_ [      ]  
A) an ion source      B) a mass analyzer      C) a detector      D) All of the above
3. A potential of \_\_\_\_\_ to \_\_\_\_\_ volts is applied to anode of GM tube [      ]  
A) 800-2500      B) 600-1000      C) 100-1000      D) 0-100
4. \_\_\_\_\_ is the technology for studying materials with unpaired electrons [      ]  
A) NMR      B) ESR      C) Both A and B      D) None
5. APC is combination of mechanism of \_\_\_\_\_ [      ]  
A) GM tube & Mass analyzer      B) Mass analyzer & Ionization chamber  
C) GM tube & Ionization chamber      D) Ionizer & Mass analyzer
6. Atomic Absorption Spectroscopy is used in [      ]  
A) Clinical analysis      B) Pharmaceuticals      C) water analysis      D) all
7. The heart of spectrometer is \_\_\_\_\_ [      ]  
A) Detector      B) Ion source      C) Mass analyzer      D) GM tube
8. In GM counter the tube is filled with \_\_\_\_\_ [      ]  
A) Hydrogen      B) Neon      C) Argon      D) Nitrogen
9. The most common spectrometers are used in \_\_\_\_\_ region [      ]  
A) IR      B) UV      C) Visible      D) C and D
10. The absorption of double beam spectrometer is obtained by the output \_\_\_\_\_ [      ]  
A)  $E_0 = K \log I/I_0$       B)  $E_0 = K \log I_0/I$       C)  $E_0 = C \log I/I_0$       D) None

Cont.....2

**II Fill in the blanks**

11. The outer chamber wall in ionization chamber acts as a \_\_\_\_\_
12. The \_\_\_\_\_ is the part of the mass spectrometer that ionizes the material under analysis.
13. The rotation of the nuclear axis around the direction of the external field is called \_\_\_\_\_
14. Absorption filters give \_\_\_\_\_ degree of monochromaticity than the interference filters
15. In flame emission spectroscopy the source of excitation is \_\_\_\_\_
16. Visible spectro photometer typically measures in the visible region of the \_\_\_\_\_
17. Atomic absorption spectrometry can be used to determine over \_\_\_\_\_ elements
18. Time domain NMR spectrometers operates at \_\_\_\_\_ to \_\_\_\_\_ Hz.
19. Solid state detector also called as \_\_\_\_\_
20. GM counter was invented by \_\_\_\_\_ and \_\_\_\_\_

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Set No. 4

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

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

**ANALYTICAL INSTRUMENTATION**

**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 potential of \_\_\_\_ to \_\_\_\_ volts is applied to anode of GM tube [      ]  
A) 800-2500      B) 600-1000      C) 100-1000      D) 0-100
2. \_\_\_\_ is the technology for studying materials with unpaired electrons [      ]  
A) NMR      B) ESR      C) Both A and B      D) None
3. APC is combination of mechanism of \_\_\_\_ [      ]  
A) GM tube & Mass analyzer      B) Mass analyzer & Ionization chamber  
C) GM tube & Ionization chamber      D) Ionizer & Mass analyzer
4. Atomic Absorption Spectroscopy is used in [      ]  
A) Clinical analysis      B) Pharmaceuticals      C) water analysis      D) all
5. The heart of spectrometer is \_\_\_\_ [      ]  
A) Detector      B) Ion source      C) Mass analyzer      D) GM tube
6. In GM counter the tube is filled with \_\_\_\_ [      ]  
A) Hydrogen      B) Neon      C) Argon      D) Nitrogen
7. The most common spectrometers are used in \_\_\_\_ region [      ]  
A) IR      B) UV      C) Visible      D) C and D
8. The absorption of double beam spectrometer is obtained by the output \_\_\_\_ [      ]  
A)  $E_0 = K \log I/I_0$       B)  $E_0 = K \log I_0/I$       C)  $E_0 = C \log I/I_0$       D) None
9. \_\_\_\_ is the application of ESR [      ]  
A) Study of free radicals      B) Investigation of molecules in the triple state  
C) Study of inorganic components      D) All of the above
10. A Mass spectrometer consists of \_\_\_\_ [      ]  
A) an ion source      B) a mass analyzer      C) a detector      D) All of the above

**Cont.....2**

**II Fill in the blanks**

11. The rotation of the nuclear axis around the direction of the external field is called \_\_\_\_\_
12. Absorption filters give \_\_\_\_\_ degree of monochromaticity than the interference filters
13. In flame emission spectroscopy the source of excitation is \_\_\_\_\_
14. Visible spectro photometer typically measures in the visible region of the \_\_\_\_\_
15. Atomic absorption spectrometry can be used to determine over \_\_\_\_\_ elements
16. Time domain NMR spectrometers operates at \_\_\_\_\_ to \_\_\_\_\_ Hz.
17. Solid state detector also called as \_\_\_\_\_
18. GM counter was invented by \_\_\_\_\_ and \_\_\_\_\_
19. The outer chamber wall in ionization chamber acts as a \_\_\_\_\_
20. The \_\_\_\_\_ is the part of the mass spectrometer that ionizes the material under analysis.

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