

**MSc Sem-3 Paper-3**  
**MOCK test**

Q.1. NMR spectroscopy is used for determining structure in which of the following materials?

- a) Radioactive materials
- b) Insoluble chemical compounds
- c) Liquids**
- d) Gases

Q.2 NMR is the study of absorption of \_\_\_\_\_ by nuclei in a magnetic field?

- a) Radioactive radiation
- b) IR radiation
- c) Radio frequency radiation**
- d) Microwaves

Q.3. NMR spectroscopy indicates the chemical nature of the \_\_\_\_\_ and spatial positions of

- a) Electrons, Protons
- b) Neutrons, electrons
- c) Nuclei, electrons
- d) Nuclei, neighbouring nuclei**

Q.4. Nuclei having either the number of protons or neutrons as odd have \_\_\_\_\_ spin.

- a) Integral spin
- b) Half integral spin**
- c) Zero spin
- d) Positive spin

Q.5. Using spin system, notations designate the type of spin system in below molecule

Cl-CH<sub>2</sub>-CH<sub>2</sub>-Br

- a) **A<sub>2</sub>X<sub>2</sub>**
- b) AMX
- c) A<sub>2</sub>B<sub>2</sub>
- d) AB<sub>2</sub>

Q.6. COSY spectrum explains.....correlation.

- a) <sup>1</sup>H-<sup>13</sup>C
- b) <sup>1</sup>H- <sup>1</sup>H**
- c) <sup>13</sup>C-<sup>13</sup>C
- d) <sup>1</sup>H-<sup>19</sup>F

Q.7. DEPT-90 spectrum shows signals for

- a) -CH-
- b) -CH<sub>2</sub>-
- c) CH<sub>3</sub>
- d) Chirality

Q.8. NOESY spectrum gives information about .....

- a) <sup>1</sup>H-<sup>1</sup>H
- b) <sup>13</sup>C-<sup>13</sup>C
- c) <sup>1</sup>H-<sup>19</sup>F

**d) stereoisomers**

Q.9. HETCOR spectrum explains.....correlation.

- a) <sup>1</sup>H-<sup>13</sup>C**
- b) <sup>1</sup>H-<sup>1</sup>H
- c) <sup>13</sup>C-<sup>13</sup>C
- d) <sup>1</sup>H-<sup>19</sup>F

Q.10. NOESY stands for.....

- a) Nuclear Overhauser Efficiency spectroscopy
- b) Nuclear Overhauser Effect spectroscopy**
- c) Nuclear Overvoltage Effect spectroscopy
- d) Neutron Overhauser Effect spectroscopy

Answer key -MSC SEM-3-PAPER-3 MOCK TEST

Q.1	C
Q.2	C
Q.3	D
Q.4	B
Q.5	A
Q.6	B
Q.7	A
Q.8	D
Q.9	A
Q.10	B

