

Rayat Shikshan Sanstha
Rajarshi Chhatrapati Shahu College, Kolhapur
Department of Chemistry

Internal examination-B.Sc-III (2021-22)

Sub-organic chemistry

Date-15-3-2021

Marks-10

Date & Time : 17/6/2022

Instruction:-

1. All question compulsory
2. Figures to the right hand side indicate full marks.

Q1 Multiple Choice Questions.

1. IR-absorption causes transition between the energy levels namely.....

Electronic

Vibrational

Nuclear spin

All of the above

2. As per Hook's law vibrational frequency is proportional to.....

Square root of force constant

Under root of ratio of force constant and reduced mass

root of reduced mass

Both a and c

3. The vibration frequency of amide band-I signifies.....

C=O

N-H str.

N-H def.

C-N str.

4. C=O frequency in acetone is less than acetaldehyde due to.....

+I effect

Resonance effect

Both a and b



H-bonding

5. The H-bonding causes the IR Bands to be.....

Broader

Sharper

Weaker

None of the above

6. Radio frequencies in NMR spectrometer are generated by.....

Transmitter

Receiver coil

Electromagnet

None of these

7. The Energy of proton aligned parallel to the applied field is.....

Zero

Less than Zero

More than Zero

Any of these

8. In NMR the Notation 'I' is used to indicate.....

Resultant spin of Nucleons

Spin of proton

Spin of neutron

Spin of electron

9. NMR phenomenon is not shown by the nuclei.....

${}^1_1\text{H}^1$

${}^{10}_5\text{B}^{10}$

${}^{12}_6\text{C}^{12}$

${}^{15}_7\text{N}^{15}$

10. The δ value assigned to TMS proton is.....

0

10

10-20

100