

19. What kind of spectrum do we get with UV spectroscopy? Briefly discuss your answer in a concise manner. **[5marks]**

Ans.

- Broad band spectrum
-

20. What kind of EM radiation is generally referred to as black light? **[5marks]**

Ans.

- UV light/radiation

21. How are X-rays and gamma radiation different from UV radiation? **[5marks]**

Ans.

- X-rays and gamma rays have the same basic properties but come from different parts of the atom.
- X-rays are emitted from processes outside the nucleus, but gamma rays originate inside the nucleus.
- Some types of ultraviolet (UV) radiation are also ionizing

22. How is gamma radiation different from alpha and beta radiation? **[5marks]**

Ans.

- alpha and beta radiation is radioactive particulate radiation
- but Gamma-radiation is electromagnetic radiation

23. Briefly discuss the different types of non-ionizing EM radiation. **[10marks]**

Ans.

- RF/RW= radio waves **[2marks]**
- MW= microwaves **[2marks]**
- IR=Infrared **[2marks]**
- VIS=visible light **[2marks]**
- UV=ultraviolet (Some parts) **[2marks]**

24. State correctly the full meaning of the following acronyms: **[8marks]**

- | | | | |
|------------|--------|--------|---------|
| a. ROYGBIV | b. NIR | c. MIR | d. FLIR |
| e. SWIR | f. AM | g. UHF | h. FM |

a. ROYGBIV = Red Orange Yellow Green Blue Indigo Violet **[1mark]**

b. NIR = Near Infra-Red **[1mark]**

c. MIR = Mid Infra-Red **[1mark]**

d. FLIR= Forward Looking Infra-Red **[1mark]**

e. SWIR= Short Wave Infra-Red **[1mark]**

f. AM= Amplitude Modulation **[1mark]**

g. UHF= Ultra High Frequency **[1mark]**

h. FM= Frequency Modulation **[1mark]**