2 year B.S.C (Semester IV) → MODERN PHYSICS - PAPER V

M O S T I M P QUESTIONS

UNIT - 1 (ATOMIC & MOLECULAR PHYSICS)

For More Visit: https://degreeking.netlify.app/

Long Questions

- 1. WRITE ABOUT SPECTRAL QUANTIZATION AND ELECTRON SPIN AND DESCRIBE ITS EXPERIMENTAL VERIFICATION (STERN-GERLACH EXPERIMENT)?
- 2. WHAT IS RAMAN EFFECT? DESCRIBE EXPERIMENTAL SET UP TO STUDY RAMAN EFFECT. GIVE THEORY?WRITE RAMAN EFFECT APPLICATIONS?

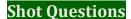
Shot Questions

- 1.EXPLAIN ABOUT LS COUPLING AND JJ COUPLING?
- 2.DEFINE ZEEMAN EFFECT AND EXPLAIN ITS EXPERIMENTAL VERIFICATION?
- 3. GIVE SELECTION RULES AND WRITE ABOUT FINE STRUCTURE OF SODIUM D LINES?
- 4.EXPLAIN ABOUT QUANTUM NUMBERS?

UNIT - 2 (MATTER WAVES & UNCERTAINTY PRINCIPLE)

Long Questions

- 1.WHAT ARE MATTER WAVES?HOW THEY ARE ESSTABLISH BY DAVISSON GERMER EXPERIMENT? (EXPERIMENT ON ELECTRON DIFFRACTION)?
- 2.STATE AND EXPLAIN HEISENBERGS UNCERAINTY PRINCIPLE FOR P AND X.Extend IT TO ENERGY AND TIME.EXPLAIN THE CONSEQUENCES OF UNCERTANTY PRINCIPLE IN GAMMA RAY MICROSCOPE?



- 1.EXPLAIN DEBROGLIE HYPOTESIS AND GIVE WAVELENGTH OF MATTER WAVES?
- 2. WHAT ARE THE PROPERTIES OF MATTER WAVES?
- 3.EXPLAIN BOHR PRINCIPLE OF COMPLEMENTARILY?
- 4. DEDUCE ABOUT PHASE AND GROUP VELOCITIES?

UNIT-3 (QUANTUM MECHANICS)

Long Questions

- 1.DERIVE SCHRODINGER TIME DEPENDENT AND TIME INDEPENDENT WAVE EQUATIONS FOR MATTER WAVES?
- 2.WHAT ARE BASIC POSTULATES OF QUANTUM MECHANICS?OBTAIN SCHRODINGER WAVE EQUATIONS FOR PARTICLE IN ONE DIMENSIONAL POTENTIAL BOX OF INFINATE HEIGHT?

Shot Questions

- 1.EXPLAIN ABOUT FIGEN VALUES AND EIGEN FUNCTIONS?
- 2.WRITE BASIC POSTULATES OF QUANTUM MECHANICS?
- 3.EXPLAIN ABOUT ONE DIMENSIONAL HARMONIC OSCILLATOR?



UNIT- 4 (NUCLEAR PHYSICS)

Long Questions

- 1.EXPLAIN LIQUID DROP MODEL AND SHELL MODEL OF THE NUCLEUS?
- 2.EXPLAIN PRINCIPLE OF GIEGER MULLER COUNTER (GM COUNTER)
 AND ITS WORKING?GIVE ITS APPLICATIONS?

Shot Questions

- 1.EXPLAIN GENERAL PROPERTIES OF NUCLEI?
- 2.EXPLAIN CHARACTERSTICS OF NUCLEAR FORCES?
- 3.EXPLAIN CLOUD CHAMBER AND ITS WORKING?
- 4.EXPLAIN SOLID STATE DETECTOR AND ITS WORKING?

UNIT-5 (NANO MATERIALS & SUPERCONDUCTIVITY)

Long Questions

- 1.GIVE QUANTITATIVE DESCRIPTIONS OF BCS THEORY? HOW DOES IT ACCOUNT FOR THE SUPERCONDUCTIVITY STATE? EXPLAIN GIVE ITS APPLICATIONS?
- 2.WHAT ARE NANOMATERIALS?EXPLAIN CLASSIFICATION OF NANOMATERIALS?MENTION ITS PROPERTIES AND APPLICATIONS OF NANOMATERIALS?

Shot Questions

- 1.DEFINE SUPER CONDUCTIVITY AND ITS CLASSIFICATIONS (TYPE I AND TYPE II SUPERCONDUCTORS)?
- 2.EXPLAIN ABOUT MEISSNER EFFECT?
- 3.EXPLAIN ABOUT CRBON NANOTUBES (CNT)?
 - 4.EXPLAIN ELECTRON CONOFINEMENT AND SIZE EFFECT OF NANO MATERIALS?

