



मैट्स विश्वविद्यालय मुक्त एवं दूरवर्ती शिक्षा कार्यक्रम आरंग, रायपुर (छ0ग0)

MATS UNIVERSITY OPEN & DISTANCE LEARNING CENTRE ARANG, RAIPUR (C.G.)

सत्रीय कार्य / Assignment Work – 2014-15

M.Sc. Physics (Final)

Max Marks – 30

Min Marks-12

निर्देश :- सत्रीय कार्य के प्रत्येक विषय में कुल 30 अंक हैं। सभी प्रश्नों के अंक समान होंगे। सभी प्रश्न हल कीजिए। (Assignment Work of each paper carries 30 Marks. All questions carry equal marks. Attempt all questions.)

Advanced Quantum Mechanics and Introductory Quantum Field Theory - I

1. What do you mean by Heisenberg Eigenstates?
2. What do you mean by the Quantum Mechanics of Identical Particles? Explain.
3. What do you mean by propagator? Explain.
4. What do you mean by the Interaction Picture? Explain.
5. Explain the Charge Conjugation and Antiparticles.

Quantum Mechanics, Atomic and Molecular Physics - II

1. Define Projection Operator.
2. Explain Partial Wave Analysis.
3. What are identical particles?
4. The wavelength of a yellow line of sodium is 5896 Å. Calculate its wave number and frequency.
5. Explain. Why is Compton effect experimentally not observed for visible light rays.

Nuclear Physics - III

1. Explain Electric Quadrupole?
2. What are the benefits of fine structure of X-ray spectra?
3. What is the function of diffusion cloud Chamber.
4. Write a short note on photo neutron sources & Neutron Detectors.
5. What is collective model of nucleus.

Microwave Electronics Condensed Matter Physics - IV

1. Write a note on Stability of a Molecular Bond.3?
2. Explain Lattice thermal Conductivity.
3. Describe Richardson Dushman equation?
4. What are the magnetic properties of plasma state?
5. Describe Mossbauer spectrum.
