DIRECTORATE OF DISTANCE EDUCATION

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Assignment for DEC 2022

M.Sc Physics (Final)

सभी प्रश्नों के उत्तर दें। अंकभार:- 30%

प्रत्येक प्रश्न के उत्तर अधिकतम 800 शब्दों में दें।

Paper 9

1. What is polar and nonpolar dielectric? Derive Clausius- Mossottiequatioin.
2. What are the salient feature of Kronig-Penney model?
3. Write a note on any two of the following:
    a) Dielectric
    b) Polarization
    c) Quantization of lattice vibration
    d) Band theory of solids

Paper 10

1. Discuss Meson theory of nuclear forces. And mention the discovery of pion.
2. Explain Gamma decay and discuss any two interaction of Gamma ray with matter in detail.
    a) Photoelectric effect
    b) Compton scattering
    c) Pair production
3. What is four wheeler theory of nuclear fission? Also mention Nuclear fission processes.

Paper 11

1. Discuss the Regula-Falsi method for determination fo zeros of a non linear algebra and transcendental equation.
2. Describe euler and RungeKuttamethod for finding the solution of an equation.
3. Write a note on any two of the following.
    a) Precision.
    b) Variables.
    c) Transcendental equation.
    d) Creation fo executable programs.

Paper 13

1. Discuss about inverting and noninverting operational amplifier with circuit diagram.
2. How an RS flip flop converted into JK flip flop? Give its truth table and explain how it is obtained? Mention the use of preset and clear inputs in a flip flop.
3. Write a note on any two of the following.
    a) ROM
    b) RAM
    c) CD ROM
    d) PROM

Paper 14

1. Derive the radar range equation. hence discuss how the maximum range covered by a radar can be increased?
2. Describe electromagnetic theory of propagation of light in optical fibre.
3. What is a semiconductor diode? Explain its characteristics.

*__Assignment__ जमा करने की अंतिम तिथि:- 15.12.2022