

Questions for Internal exam of Sem IV Physics (Hons)  
Physics Core paper (8)

Answer Any Two questions

- ① What do you mean by a Complex number. Give graphical representation of a Complex no.
- ② What is an Analytic function  $f(z)$ . What are the necessary and sufficient conditions for a complex variable function  $f(z)$  to be Analytic i.e. Cauchy-Riemann Conditions.
- ③ What is Fourier Series Theorem. Evaluate the Co-efficients of Fourier Series.
- ④ If  $f(z) = z^2$  is a complex variable function, show that  $z = x + iy$ , prove that  $f(z)$  is an Analytic function.

Questions of Internal exam. of Sem IV Phys (Hons)  
Core paper. (9)

Answer any two questions

- ① What is a Black body and Black body radiation characteristics.
- ② What are de Broglie waves? Describe how de Broglie relation has been verified experimentally.
- ③ What do you mean by Radioactivity. Write the laws of radioactive decay of a radioactive substance. Explain clearly Mean life and half life of a radioactive substance.
- ④ Establish Schrodinger's time dependent equation for a particle. Give the physical interpretation of the wave function.

Questions of Internal exam. of Sem IV MC (phys. & Hous)  
Core paper (10)

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Answer any two

- ① Describe the Construction and its action of a C.R.O with block diagram. Write its different uses.
- ② Differentiate between Analog and Digital Circuits
- ③ What is Boolean Algebra. Write different laws of Boolean Algebra.
- ④ What are Logic gates. Write different types of Logic gates with their truth table.

Questions for practical exam. of physio (Hous)  
practical of ⑧⑨⑩

Answer any one.

- ① Study the V-I characteristics of P-N junction diode.
- ② Study the V-I characteristics of Zener diode and its use as voltage ~~regulator~~ regulator.