

SUBJECT CODE NO:- K-149
FACULTY OF ENGINEERING AND TECHNOLOGY
F. E.[online + theory exam] Examination Oct/Nov 2016
Engineering Physics
(Old)

[Time: Two Hours]

[Max. Marks:40]

Please check whether you have got the right question paper.

- N.B
- i) Attempt Q.No.1 which is compulsory.
 - ii) Solve any two questions from the remaining question.
 - iii) Figures to the right indicate full marks.
 - iv) Use of non-programmable calculator is allowed.
- Q.1 Attempt the following questions (any five) 10
- a) What are positive rays? How they are produced?
 - b) Draw a neat diagram CRT.
 - c) Write industrial application of X-rays.
 - d) State Compton's effect
 - e) What is interference of light?
 - f) Distinguish between Fresnel's & Fraunhofer's diffraction.
 - g) What is QWP?
 - h) Define i) critical temperature ii) critical magnetic field.
 - i) Define i) nuclear fission ii) Nuclear fusion
- Q.2 08
- a) Explain principle, construction, working and theory of Aston's mass spectrograph.
 - b) Derive the necessary expression for Compton shift in wavelength. 07
- Q.3 05
- a) Explain appearance of Newton's rings by reflected light.
 - b) Explain the construction and working of Michelson's interferometer. 05
 - c) Explain theory of plane transmission grating. 05
- Q.4 05
- a) Explain type I and type II superconductor.
 - b) Explain liquid drop model of nucleus. 05
 - c) Explain the construction & working of betatron. 05
- Q.5 Write short note on the following; 15
- a) Bragg's X ray spectrometer
 - b) Laurent's half shade polar meter
 - c) Nuclear reactor and its uses