

Sr.No.3360

Exam Code:103206

Subject Code: 7017

B.A/B.Sc - 6th Sem. (old sylb 2018-19)

(2721)

Paper: Physics Paper-B (Radiation & Particle Physics)

Time Allowed: 2 hrs.

Max. Marks: 35

**Note: There are EIGHT questions of equal marks. Candidates are required to attempt any FOUR questions.**

1. Using Bohr's formula for stopping power, derive Bloch-Beth relation.
2. Discuss briefly the various processes that can take place when  $\gamma$  radiations are absorbed by matter.
  
3. Give basic principle of Gas filled detectors. Discuss the curve between pulse height and applied voltage for a gas filled counter serving as (i) an ionization counter (ii) a proportional counter (iii) a G. M. Counter.
4. What is Cerenkov radiation? Discuss the utility of this phenomena in detecting of high energy particles. What are the characteristics of Cerenkov detectors?
  
5. Give principle, construction and working of a linear accelerator. What are it's disadvantages?

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6. What is a Synchrotron? Give the constructional details and working of proton and electron Synchrotron.
  
7. What are fundamental particles? Give a brief account of the discovery and properties of elementary particles.
8. Discuss Gell-Mann-Nishijima scheme of classification of particles.

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