

**Model Syllabus for the Entrance Examination for
Admission to the M. Sc. Course in Environmental Science
Batch 2017**

The question paper containing 60 multiple answer type questions for the entrance examination for admission to M. Sc. Environmental Science will be broadly based on the below mentioned 60 topics placed under 15 units drawn from different branches of science related to the Environment. The paper will be spread over the whole syllabus, with one question from each topic of the unit carrying one mark each.

Earth Science

Unit I

1. Earth : its origin and evolution
2. Structure of earth
3. Types of Rocks and Weathering of Rocks
4. Major River systems of India with special reference to Kashmir.

Unit II

5. World population, its growth, density and distribution and impact on environment
6. Forests resources in India
7. Mineral and Power Resources in India
8. Physiography and Mineral Resources of Jammu & Kashmir

Unit III

9. Natural Disasters
10. Major man-induced disasters: Bhopal and Chernobyl Disaster
11. Structure and Composition of Atmosphere.
12. Climate of India.

Unit IV

13. Soil formation and soil profile.
14. Soil types of India
15. Soil erosion & conservation of soil
16. Desertification.

Physical and chemical Science

Unit V

17. Water - physical characteristics, buffering capacity
18. Essential and trace elements in living systems
19. Bio-geochemical cycles – carbon, nitrogen and phosphorus
20. Hydrological cycle and global water balance

Unit VI

21. Toxicity of Heavy metals.
22. Drugs – Synthesis and uses of aspirin, paracetamol and phenylbutazone
23. Nature & synthetic polymers & their use
24. Bio-molecules-chemical components of cells

Life science

Unit VII

25. Photosynthesis
26. Respiration
27. Plant growth hormones.
28. Dormancy and seed germination.

Unit VIII

29. Origin of life
30. Structure of DNA
31. Genetic engineering
32. Pathogenicity and control of human parasites

Unit IX

33. Eco-system: structure & types
34. Types of succession
35. Lake types
36. Zoo-geographical divisions of the world & their important flora & Fauna.

Unit X

37. Atmospheric pollution: causes, consequences and control.
38. Aquatic pollution: causes, consequences and control.
39. Land pollution: causes, consequences and control
40. Noise pollution

Unit XI

41. Pesticide problem
42. Water borne diseases
43. Management of solid wastes
44. Primary, secondary & tertiary treatment of sewage treatment plant

Unit XII

45. Non-renewable energy resources: Fossil fuels (coal and petroleum)
46. Wild life of Jammu and Kashmir.
47. Forest degradation & conservation measures
48. Eco- friendly products and techniques; non polluting energy sources

Unit XIII

49. Plants & animals in use of man
50. Role of microbes in the environment
51. IUCN Categories of threatened species

52. Threatened animals & plants of India & their conservation.
Unit XIV
53. Global Environmental issues: ozone depletion and global warming
54. Acid rain and Smog
55. International Conventions: Stockholm, Earth summit, Montreal and Kyoto protocol.
56. Environmental Education

Mathematical Science

Unit XV

57. Measures of central tendency: Mean, Median and Mode
58. Statistical methods; mean deviation; coefficient of variation and standard deviation
59. Correlation and Regressions
60. Probability

