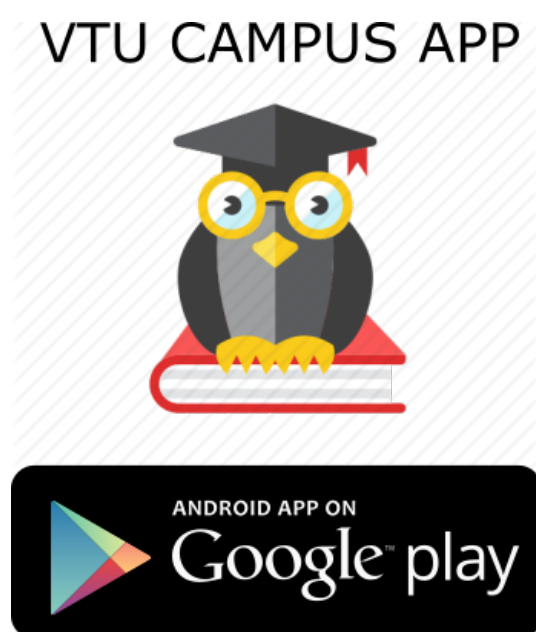


# Nanotoxicology and Social Implications VTU CBCS Question Paper Set 2018



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**Sixth Semester B.E. Degree Examination, June/July 2016**  
**Nanotoxicology and Social Implications**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer FIVE full questions, selecting  
at least TWO questions from each part.**

**PART – A**

- 1 a. Give a succinct account on inhalation and deposition of nanomaterials on blood circulatory system. (10 Marks)  
b. Discuss the research approaches for testing toxicity of nanoparticles in cardiovascular system. (10 Marks)
- 2 a. Explain the mechanism of nanosize particle toxicity with reference to oxygen specificity. (12 Marks)  
b. Give a note on cytotoxicity of ultra fine particles. (08 Marks)
- 3 a. Discuss the safety and pollution control techniques in handling, packing transportation of disposed nanoparticles. (12 Marks)  
b. Write a note on airborne nanoparticles. (08 Marks)
- 4 a. How are nanoparticles deposited in respiratory track? (10 Marks)  
b. Describe the translocation process of nanoparticles to bone marrow via gastro intestinal track (10 Marks)

**PART – B**

- 5 a. Discuss the risk assessment with reference to legal and social implications in handling nanoparticles. (10 Marks)  
b. Explain the regulation of applications of synthetic nanoparticles in Europe and U.S.A. (10 Marks)
- 6 a. Discuss the nanotechnology revolutions considering Malcolm – transcending Moore's law with molecular electronics. (10 Marks)  
b. Write a note on socio-economic impact of nanoscale science. (10 Marks)
- 7 a. Discuss the ethical issues involved in nanoscience. (10 Marks)  
b. Write a note on quality of life in nanotechnology initiative. (10 Marks)
- 8 a. What are the benefits to nanoengineers and mention the role of nanotechnology in K – 12 education? (10 Marks)  
b. Comment on research areas in India with reference to nanotechnology. (10 Marks)

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**Sixth Semester B.E. Degree Examination, June/July 2017**

**Nano Toxicology and Social Implications**

Time: 3 hrs.

Max. Marks:100

**Note:** Answer any FIVE full questions, selecting atleast TWO questions from each part.

**PART – A**

- 1 a. Write a note on systematic translocation of inhaled particles. (08 Marks)  
b. What are the methods and challenges involved in the toxicity study of nanomaterials. (12 Marks)
- 2 a. Explain in detail the mechanism of NSPs toxicity and reactive oxygen species mechanism of NSPs toxicity. (10 Marks)  
b. Define Cytotoxicity and describe potential mechanism involved in cytotoxicity by nanomaterials. (10 Marks)
- 3 a. Describe the effect of nano materials in the environment. Write a short note on safety and pollution control techniques. (10 Marks)  
b. Write a note on Nanomaterials in Environment and Nanomaterials pollution. (10 Marks)
- 4 a. Explain in detail the translocation of NSPs top the circulatory system through endocytic pathways. (10 Marks)  
b. Explain Neural uptake and translocation of NSPs. (10 Marks)

**PART – B**

- 5 a. Explain the risk assessment, ethical and legal , social implications related with nanotechnology. (10 Marks)  
b. How Nanotechnology can be used to improve quality , safety and security in agricultural production? (10 Marks)
- 6 a. Elucidate the non – nano effects of nanotechnology on the economy. (10 Marks)  
b. Considering Malcolm Balbridge criteria, how can you manage nanotechnology revolution? (10 Marks)
- 7 a. Elucidate ethical issues associated with nano science and nano technology. (10 Marks)  
b. Write a note on Exploration of patent matters associated with nanotechnology. (10 Marks)
- 8 a. How do you communicate the nano technological risks? (10 Marks)  
b. Elucidate the educational opportunities of nanotechnology and human resources for nanotechnology. (10 Marks)

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