C. ABDUL HAKEEM COLLEGE (AUTONOMOUS),
MELVISHARAM - 632 509.
SEMESTER EXAMINATIONS, APRIL - 2018

B.Sc., ZOOLOGY **SEMESTER VI**

U15EZL602 – NANOTECHNOLOGY IN LIFE SCIENCE (ELECTIVE - III)

Time: Three Hours Maximum: 75 Marks

SECTION - A (10 X 2 = 20 Marks)

Answer **ALL** Questions.

Explain/Define the Following:

1. SPR gene.
2. Noble metal nanoparticles.
3. X-ray diffraction.
4. Transmission Election Microscopy.
5. Carbon nanotubes.
6. Multiwall Carbon Nanotubes.
7. Principle of Biosensor.
8. Bionanotechnology.
9. Gold nanoparticles.
10. Nanomedicine.

SECTION - B (5 X 5 = 25 Marks)

Answer **ALL** Questions.

11. a) Briefly describe the properties of nanoparticles.

(Or)

b) Differentiate the organic and inorganic nanoparticles.

12. a) Write briefly about the "top down approach" of nanoparticle production.

(Or)

b) Describe the application FTIR technique in nanoparticle characterization.

13. a) Describe the types of carbon nanotubes.

(Or)

b) Describe the formation of carbon nanotubes.

14. a) Describe briefly the microfluidic devices briefly.

(Or)

b) Nanobiosensors-briefly discuss.

15. a) Write briefly the nanotechnology applications in cancer therapy.

(Or)

b) Give a brief account on the merits of nanodrug delivery system.

SECTION - C (3 X 10 = 30 Marks)

Answer **ANY THREE** Questions.

16. Discuss the physicochemical parameters determining the functions of nanoparticles.
17. Give an account on the different characterization techniques of nanoparticles.
18. Give an account on the biological application of carbon nanotubes.
19. Biocompatible nanostructure-Discuss the synthesis and characters.
20. Nanotechnology in environmental applications-Discuss.

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