

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2018
(Third Semester)

Branch -**BIOTECHNOLOGY**

NANO BIOTECHNOLOGY

Time: Three Hours

Maximum: 75 Marks

Answer **ALL** questions
ALL questions carry EQUAL marks (2 + 5+8)

- 1 a Define Nanotechnology.
b Dendrimers as nanoparticulate drug carriers - Comment,
c Explain the role of bottom up and top down approach in nanotechnology.
OR
d What are Nanocapsules?
e Explain dip-pen nanolithography.
f Explain briefly about bionanoparticles with suitable examples.
- 2 a What are biological networks?
b DNA analyzer as biochip - Comment.
c What are nanocomposites? Explain natural nano composite materials in detail
OR
d Define bioelectronics.
e Explain the synthesis of polymer nanocomposites,
f Give a detailed note on DNA computing.
- 3 a What is DNA microarray?
b Write a note on nanopore DNA sequencing,
c Give an insight on the role of DNA in nanotechnology.
OR
d What is MSPA?
e Write a note on biomagnetic sensor,
f Give an account on DNA - protein conjugate biosensor.
- 4 a What is DNA profiling?
b Explain the role of sensors in modern medicine.
c How will you design nanoparticle based carriers for targeted drug delivery?
OR
d What is magnetic microparticle?
e What are the improved diagnostic techniques for detecting genetic defects?
f Cantilever sensors a Nanomechanical tools for Diagnostics - Discuss.
- 5 a What are Nanofibres made of?
b Write the types of Nanofinishing.
c What are the methods used to control the morphologies of electrospun nanofibres?
OR
d What is electrospun fiber?
e Write a note on flame retardant nanofinishing.
f Nanofibres and their application in tissue engineering - Explain.