PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2018
(Second Semester)

Branch-BIOTECHNOLOGY

MICROBIAL BIOTECHNOLOGY

Time: Three Hours Maximum: 75 Marks

SECTION -A (30 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks (5 x 6 = 30)

1 a Highlight the configuration and application of a fluidized bed reactor.
OR
b How an you employ natural semi solid wastes as substrates? Explain with examples.

2 a Discuss the differences between continuous and batch fermentation.
OR
b Note on thermal death kinetics and how is it relevant in industrial scales.

3 a What are Microbial polysaccharides? Give a note on PHB.
OR
b Sketch the industrial production method for citric acid and its market applications.

4 a 'Immobilization of enzymes is an advantageous industrial method'. Justify with examples.
OR
b Discuss the pilot scale production of lipases and their applications.

5 a With a relevant example explain biotransformations.
OR
b Discuss bioconversions of pesticides with examples.

SECTION -B (45 Marks)
Answer any THREE questions
ALL questions carry EQUAL Marks (3 x 1 5 = 45)

6 Enumerate the various methods of strain development for Industrial production.

7 Discuss Down stream processing.

8 How can you use different wastes for alcohol production? Sketch and discuss the methods and applications of ethanol.

9 Bring out the market potential for antibiotics. How is penicillin and the related beta lactams made industrially?

10 Explain the production of alkaloids *in vitro.*