5. Explain :
   (a) Sewage 4
   (b) Biogas production 4
   (c) Solid waste management 4

OR

   (d) Biological methods for treatment of industrial effluents 4
   (e) Composting 4
   (f) Biogas plant 4

6. Describe the bioremediation with advantages & disadvantages. 12

OR

Explain the role of microbes in degradation of crude oil & recovery of metals. 12

7. Describe in detail various funding agencies for biotechnological products. 12

OR

Describe in detail principles of patenting. 12

AQ–762A

B.Sc. Part–III (Semester – VI) Examination

6S : INDUSTRIAL MICROBIOLOGY

(Tissue Culture and Industrial Waste Management)

Time—Three Hours] [Maximum Marks—80

N.B. :— (1) **ALL** questions are compulsory.
(2) Draw neat & labelled diagrams wherever necessary.

1. (A) Fill in the blanks :
   (i) The ability of plant cells to regenerate into complete plants is called _____.
   (ii) The plant part which is cultured is called _____.
   (iii) A hybrid produced by fusion of somatic cells of two varieties is called _____.
   (iv) A gene that is transferred into an organism by genetic engineering is called _____ .

2

(B) Choose correct alternatives.

(i) The important gas present in biogas plant :

(a) CH_4

(b) CH

(c) O_2

(d) All above

(ii) Cytokinin promotes regeneration of

(a) Shoot

(b) Roots

(c) Leaves

(d) Both (a) & (b)

(iii) The non-degradable compound is called

(a) Degradation

(b) Plants

(c) Xenobiotics

(d) Glucose

(iv) Which is the funding agencies for new projects ?

(a) Rajiv Gandhi Jivandayi Yojana

(b) Atal Pension Yojana

(c) Pantpradhan Rojgar Yojana

(d) Mahila Bachat Gat 2

(C) Answer in **one** sentence :

(i) What is culture media ?

(ii) Embryo culture/define

(iii) Define callus

(iv) Define regeneration 4

2. Explain :

(a) Organ culture 4

(b) Continuous cell line 4

(c) Primary explant technique 4

OR

(d) Composition of animal cell culture 4

(e) Mechanical degeneration 4

(f) Application of cell lines 4

3. Explain :

(a) Shoot regeneration 4

(b) Surface sterilization of explant 4

(c) Ovary culture 4

OR

(d) Somatic embryogenesis 4

(e) Anther culture 4

(f) Media constituents of plant tissue culture. 4

4. Describe :

(a) Protoplast isolation 4

(b) Improvement of crop yield & quality 4

(c) Biotic stress 4

OR

(d) Protoplast fusion 4

(e) Transgenic plants 4

(f) Application of hybrid cells 4