

[38/A21]

SEAT No. _____
SARDAR PATEL UNIVERSITY

No. of Printed Pages : 2 SC

T. Y. B.Sc. (FIFTH SEMESTER) EXAMINATION

2017

Tuesday, 7th November

10.00 am to 1.00 pm

US05CENV01 Environmental Biotechnology

Total Marks :70

Q.1. Select the correct answer and write in answer sheet

(10)

1. The treatment of environmental problems with the use of plant is called as _____
(a) Biomagnification (b) Bioremediation (c) Phytoremediation (d) Phyto transformation
2. Fine textured soils like clay has _____ permeability which prevents dispersal of oxygen and nutrients into the soil
(a) High (b) Medium (c) Low (d) Excess
3. Uptake and transpiration of a contaminant by a plant is known as _____
(a) Rhizodegradation (b) Phytodegradation (c) Phytoextraction (d) Phytostabilization
4. Plants are hydroponically grown for the purpose of _____
(a) Rhizofiltration (b) Phytostabilization (c) Phytodegradation (d) Phytoextraction
5. _____ plant was successfully utilized for removal of radioactive compounds during Chernobyl disaster
(a) Mustard (b) Sunflower (c) Poplar (d) Lemna
6. The unorganized proliferative mass of cells produced from isolated plant tissue is called _____
(a) embryo (b) callus (c) explant (d) endosperm
7. _____ culture is used to produce haploid plants
(a) callus (b) embryo (c) anther (d) protoplast
8. Regeneration of large number of plantlets in short time through tissue culture is _____
(a) propagation (b) mass cultivation (c) Micropropagation (d) grafting
9. _____ enzymes are the scissors of molecular genetics
(a) Ligases (b) Lipases (c) Exonucleases (d) Restriction endonucleases
10. In r DNA technology, _____ are used as tool to transfer the genes
(a) Yeast (b) bacteria (c) Plasmid (d) nucleus

Q.2. Answer in brief (any Ten)

(20)

1. Explain intrinsic and extrinsic bioremediation
2. What is Bio Sparging?
3. Explain thermal process
4. Explain the term Phytoremediation
5. What is hyperaccumulator species ?
6. Explain Phytostabilization
7. What is totipotency ? Explain
8. State the working of Laminar Air Flow
9. Explain the functioning of Autoclave
10. What are Restriction Endonucleases ?
11. Write in brief the application of r DNA technology
12. Give one example of Transgenic animal and discuss its purpose

- Q.3.(a)** What is Bioremediation? Explain any two methods of In situ bioremediation. (05)
(b) Explain Land farming and composting (05)

OR

- Q.3.(a)** Discuss two methods of Ex situ bioremediation in brief (05)
(b) What is Biosparging and bioslurping ? Explain (05)

- Q.4 (a)** Discuss the Phytovolatilization process (05)
(b) What is Rhizofiltration ? (05)

OR

- Q.4 (a)** Discuss the Role of Hyperaccumulator Plants (05)
(b) State in brief the advantages of Phytodegradation (05)

- Q.5.(a)** Give a brief account on General process of Plant Tissue culture (05)
(b) Write about the media composition for Plant tissue culture (05)

OR

- Q.5. (a)** Discuss various methods of Organ culture (10)

- Q.6. (a)** Explain the recombinant DNA technology with suitable diagrams (05)
(b) State Role of Plasmid in r DNA technology (05)

OR

- Q.6. (a)** Discuss the Role of Endonucleases in r DNA technology (05)
(b) What are transgenic animals ? Discuss one example (05)
