Biyani Girls college ,Jaipur

Model Paper-A (B.Sc. Biotech. II)

Paper: BT 601- Plant Secondary Metabolite

Max Marks: 50 Max Time: 3 hrs

Q1. Answer the following in short:- (1x10=10)

i. What do you understand by secondary metabolites?
ii. Name two steroids and two saponins.
iii. What do you understand by cryopreservation?
iv. What are anti tumor compounds?
v. Define food additives.
vi. Define biotransformation.
vii. What do you understand by regulation of gene expression?
viii. What is the use of sparger and impellers in a bioreactor?
ix. Differentiate primary metabolite from secondary metabolite with examples.
x. Which secondary metabolite do we obtain from Ginkgo biloba?

Section A

2. Explain different chromatography techniques. **10**

3. Describe the occurrence of secondary plant metabolites and their importance.

Section B

4. Give brief account on in vitro optimization selection effect of metabolism on secondary metabolite production. **10**

5. Write short note:

i. Alkaloids
ii. Steroids

Section C

6. Give detail account on ex-situ conservation of germplasm. **10**

7. Explain commercial production of secondary metabolites using cell cultures. Also add a note on usage of bioreactor.

Section D

8. Write short notes on: **10**

i. Gene expression in response to environmental stimuli
ii. Products obtained in traditional medicinal system

9. Write short notes on:

i. Anti tumor compounds
ii. Plant secondary metabolites as Insecticides

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Model Paper-B (B.Sc. Biotech. II)

Paper: BT 601- Plant Secondary Metabolite

Max Marks: 50 Max Time: 3 hrs

Q1. Answer the following in short:- (1x10=10)

i. Define alkaloids.
ii. What do you understand by biosynthesis of secondary metabolites?
iii. Write names of two secondary metabolites obtained from Ginkgo biloba.
iv. Write the names of techniques used for isolation and separation of various secondary metabolites.
v. Write the names of two food additives for flavoring.
vi. What do you understand by immobilization of cells?
vii. What are microbial secondary metabolites?
viii. What do you understand by large production?
ix. What is detoxification of secondary metabolites?
x. Who proposed operon concept?

Section A

2. Explain the techniques used for isolation of various secondary metabolites. **10**

3. What are plant secondary metabolites? Write their different forms with example along with their importance.

Section B

4. Elaborate the production of plant secondary metabolites under stress factors. **10**

5. Write short notes on:

i. Production of steroids
ii. Detoxification of secondary metabolites

Section C

6. Explain the production of plant secondary metabolites by bioconversion

and genetic transformation. **10**

7. Write a detail account on large scale production. Draw suitable diagram of bioreactor. Also discuss its type.

Section D

8. Write a brief account on products obtained in traditional medicinal system and their significance in plant biotechnology. **10**

9. Explain genetic regulation of gene expression with the help of diagrams.