THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

**[LM 995]** MAY 2018 **Sub. Code: 2995**

**M.PHARM. DEGREE EXAMINATION**
**(PCI New regulations 2016)**
**SEMESTER-II**
**BRANCH–VII – PHARMACOGNOSY – MPG**
**PAPER I – MEDICINAL PLANT BIOTECHNOLOGY**

***Q.P. Code : 262995***

**Time : Three hours** **Maximum : 75 Marks**

**I. Elaborate on:** **(2 x 20 = 40)**

1. Write in detail about in mobilization technique of plant cell and its application on secondary metabolites production.

2. Describe study of hairy root multiple shoot culture and its application.

**II. Write notes on:** **(7 x 5 = 35)**

1. Organogenesis.
2. Monoclonal variation.
3. Sterilization method involved in tissue culture.
4. Cell signaling.
5. Production of ergot alkaloids using fermentation technology.
6. Embryo genesis.
7. Different methods used in gene identification, localization and sequencing of genes.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

**[LN 995]** NOVEMBER 2018 **Sub. Code: 2995**

**M.PHARM. DEGREE EXAMINATION**
**(PCI New regulations 2016)**
**SEMESTER-II**
**BRANCH–VII – PHARMACOGNOSY – MPG**
**PAPER I – MEDICINAL PLANT BIOTECHNOLOGY**

***Q.P. Code : 262995***

**Time : Three hours** **Maximum : 75 Marks**

**I. Elaborate on:** **(2 x 20 = 40)**

1. Write a detail about the history and development of plant bio-technology emphasis its application in pharmacy and allied fields.

2. Describe the structure and complicity of genome in DNA recombinant technology.

**II. Write notes on:** **(7 x 5 = 35)**

1. Gene transfer in plant and its application.
2. Protoplast fusion.
3. Micro-propagation of medicinal and aromatic plant.
4. Advantages and disadvantages of Plant cell cloning.
5. Application of PCR.
6. Application of fermentation technology.
7. Precursors and elicitors on production of secondary metabolites.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

**[LP 995]** NOVEMBER 2019 **Sub. Code: 2995**

**M.PHARM. DEGREE EXAMINATION**
**(PCI New regulations 2016)**
**SEMESTER-II**
**BRANCH–VII – PHARMACOGNOSY – MPG**
**PAPER I – MEDICINAL PLANT BIOTECHNOLOGY**

***Q.P. Code : 262995***

**Time : Three hours** **Maximum : 75 Marks**

**I. Elaborate on:** **(2 x 20 = 40)**

1. a) What are the precursors and elicitors on production of secondary metabolite?
   b) Discuss in detail about different methods of cloning and its applications.

2. Explain immobilization techniques of plant cell and its application on secondary metabolite production.

**II. Write notes on:** **(7 x 5 = 35)**

1. Recombinant DNA technology.
2. Synthetic seeds and monoclonal variation.
3. Single cell protein.
4. Enzyme amylase production.
5. Examples of transgenic plants.
6. Applications of protoplast culture.
7. Explain genetic code.

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**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[LQ 0121] JANUARY 2021 Sub. Code: 2995**

**(APRIL 2020 EXAM SESSION)**

**M.PHARMACY DEGREE EXAMINATION**

**SEMESTER-II (PCI New regulations 2016)**

**PHARMACOGNOSY – MPG**

**PAPER I – MEDICINAL PLANT BIOTECHNOLOGY**

***Q.P. Code : 262995***

**Time : Three hours Answer ALL Questions Maximum : 75 Marks**

**I. Elaborate on: (2 x 20 = 40)**

1. Explain the factors influencing biotransformations and transgenesis.
2. Applications of hairy root culture and methods of protoplast fusion cultures.

**II. Write notes on: (7 x 5 = 35)**

1. Proteolytic and pectinase enzyme production.
2. Give the list of microorganisms used for Single Cell Proteins (SCP) production.
3. Gene prediction methods.
4. Applications of genetic transformation.
5. RNA and protein replication.
6. Micro-propagation.
7. Recombinant DNA technology.

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**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[MPHARM 0921] SEPTEMBER 2021 Sub. Code: 2995**
**(OCTOBER 2020 EXAM SESSION)**

**M.PHARMACY DEGREE EXAMINATION**
**SEMESTER-II (PCI New regulations 2016)**
**PHARMACOGNOSY - MPG**
**PAPER I – MEDICINAL PLANT BIOTECHNOLOGY**
***Q.P. Code : 262995***

**Time : Three hours** **Answer ALL Questions** **Maximum : 75 Marks**

**I. Elaborate on:** **(2 x 20 = 40)**

1. Discuss in detail about historical perspectives and prospects for development of plant biotechnology as a source of medicinal agents. Write a brief note on its applications in Pharmacy.

2. Write a detail note on the bioreactors used for pilot and large scale cultures of plant cells.

**II. Write notes on:** **(7 x 5 = 35)**

1. Production of medicinal agents by plant tissue culture.
2. Cell signaling.
3. Embryogenesis.
4. Protoplast fusion culture.
5. Advantages and disadvantages of plant cell cloning.
6. Transgenic plants.
7. Enzymes of pharmaceutical interest.

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**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[M.PHARM 0922]** **SEPTEMBER 2022** **Sub. Code: 2995**
**(APRIL 2022 EXAM SESSION)**

**M.PHARMACY DEGREE EXAMINATION**
**SEMESTER - II (PCI New regulations 2016)**
**PHARMACOGNOSY - MPG**
**PAPER I – MEDICINAL PLANT BIOTECHNOLOGY**

***Q.P. Code : 262995***

**Time : Three hours** **Answer ALL Questions** **Maximum : 75 Marks**

**I. Elaborate on:** **(2 x 20 = 40)**

1. Define embryogenesis. Write different methods of embryogenesis and its applications.

2. Write a note on
   a. Genetic and Molecular biology as applied to Pharmacognosy.
   b. Biotransformation and its applications.

**II. Write notes on:** **(7 x 5 = 35)**

1. Structure of RNA.
2. Hairy root culture.
3. Immobilization techniques of plant cell.
4. Methods used in gene identification and sequencing.
5. Any two enzymes of pharmaceutical interest.
6. Cell signaling.
7. Sterilization methods involved in plant tissue culture.

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**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[M.PHARM 0823]** **AUGUST 2023** **Sub. Code: 2995**
**(APRIL 2023 EXAM SESSION)**

**M.PHARMACY DEGREE EXAMINATION**
**SEMESTER - II (PCI New Regulations 2016)**
**PHARMACOGNOSY - MPG**
**PAPER I – MEDICINAL PLANT BIOTECHNOLOGY**

***Q.P. Code: 262995***

**Time : Three hours** **Answer ALL Questions** **Maximum : 75 Marks**

**I. Elaborate on:** **(2 x 20 = 40)**

1. Protoplast fusion techniques and its applications.

2. a) Single cell proteins and its applications.
   b) Production of ergot alkaloids by fermentation.

**II. Write notes on:** **(7 x 5 = 35)**

1. Biotransformation and Transgenesis.
2. Hairy root culture and Micro propagation.
3. Different methods of cloning and its applications.
4. Cell signaling.
5. Application of PCR in plant genome analysis.
6. Gene transfer in plants and its applications.
7. DNA recombinant technology in plant biotechnology.

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