

[KV 806A]

SEPTEMBER 2009

Sub. Code: 3806A

**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION**

**(Regulations 2008-2009 )**

**(Candidates admitted from 2008-2009 onwards)**

**FIRST YEAR**

**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code: 383806A*

**Time: Three Hours**

**Maximum: 70 marks**

**Answer ALL questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Classify the fruits and write in detail about the dehiscent capsular fruits with examples.
2. Define respiration. Write the types of respiration.  
Explain the anaerobic respiration and photo synthesis.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Structure and functions of animal tissues.
2. Excretory products of animal cells.
3. Axial skeleton of frog.
4. Vertebrate.
5. Write the poisonous animals.
6. Muscular tissues.

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[KW 806A]

MARCH 2010

Sub. Code: 3806A

**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION**

**(Regulations 2008-2009 )**

**(Candidates admitted from 2008-2009 onwards)**

**FIRST YEAR**

**PAPER VI – REMEDIAL BIOLOGY**

***Q.P. Code: 383806A***

**Time: Three Hours**

**Maximum: 70 marks**

**Answer ALL questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Explain the morphological characters of aerial parts of plants and write the types, functions and uses of roots.
2. Describe the isolation of bacteria and explain the stains and types of staining.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Classify methods of yeast.
2. Functions and types of stipules leaves.
3. Types of flowers.
4. Nervous system of frog.
5. Characters of class mammalian.
6. Epithelial tissues.

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[KX 806A]

SEPTEMBER 2010

Sub. Code: 3806A

**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION**

**(Regulations 2008-2009 )**

**(Candidates admitted from 2008-2009 onwards)**

**FIRST YEAR**

**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code: 383806A*

**Time: Three Hours**

**Maximum: 70 marks**

**Answer ALL questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe the various components of an animal cell with a neat and labeled diagram.
2. Describe the underground stem and its modifications with suitable examples.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Classifications of plant Kingdom.
2. Pollination of flowers.
3. Penicillin.
4. Reptiles.
5. Poisonous animals.
6. Ovaries of frog.

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[KY 831]

MAY 2011

Sub. Code: 3831

**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION**

**(Regulations 2008-2009 )**

**(Candidates admitted from 2008-2009 onwards)**

**FIRST YEAR**

**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code: 383831*

**Time: Three Hours**

**Maximum: 70 marks**

**Answer ALL questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe about the morphology of fruits with diagrams.
2. Discuss about the animal tissue systems.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Root modifications.
2. Taxonomy of Liliaceae.
3. Types of bacteria.
4. Classify the kingdom of Chordata.
5. Poisonous animals.
6. Types of respiration in frog and explain about any one type.

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**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION****FIRST YEAR****PAPER VI – REMEDIAL BIOLOGY***Q.P. Code: 383831***Time: Three Hours****Maximum: 100 marks****Answer ALL questions in the same order.****I. Elaborate on :****Pages Time Marks  
(Max.) (Max.) (Max.)**

- |  |    |         |    |
|--|----|---------|----|
| 1. a) Define plant Taxonomy and discuss in detail morphological characters of Umbelliferous fruits. (10) | 17 | 40 min. | 20 |
| b) Describe the types and structure of Bacteria. (10)  |    |         |    |
| 2. a) Describe the structures of plant cell and animal cell with neat labeled diagram. (15)              | 17 | 40 min. | 20 |
| b) How will you differentiate plant cell from animal cell. (5)   |    |         |    |

**II. Write notes on :**

- |  |   |         |   |
|--|---|---------|---|
| 1. Mechanism of respiration of frog.                             | 4 | 10 min. | 6 |
| 2. Differentiate monocotyledons and dicotyledons.                | 4 | 10 min. | 6 |
| 3. Write short notes on excretory products of plants.            | 4 | 10 min. | 6 |
| 4. Morphology of seeds with suitable examples.                   | 4 | 10 min. | 6 |
| 5. Distinguish between gram positive and gram negative bacteria. | 4 | 10 min. | 6 |
| 6. Define enzymes and its pharmaceutical importance.             | 4 | 10 min. | 6 |
| 7. Photosynthesis.   | 4 | 10 min. | 6 |
| 8. Define and classify animal tissues.                           | 4 | 10 min. | 6 |
| 9. Write a short note on structure of Fungi.                     | 4 | 10 min. | 6 |
| 10. Types of roots and its functions.                            | 4 | 10 min. | 6 |

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**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION****FIRST YEAR****PAPER VI – REMEDIAL BIOLOGY***Q.P. Code: 383831***Time: Three Hours****Maximum: 100 marks****Answer ALL questions in the same order.****I. Elaborate on :**

| Pages<br>(Max.) | Time<br>(Max.) | Marks<br>(Max.) |
|-----------------|----------------|-----------------|
|-----------------|----------------|-----------------|

- |  |    |         |    |
|--|----|---------|----|
| 1. Write an account on plant tissue with neat labeled diagram and their functions. (7 + 8 + 5) | 17 | 40 min. | 20 |
| 2. Write a detail note on digestive system of frog with neat labeled diagram. (10 + 10)        | 17 | 40 min. | 20 |

**II. Write notes on :**

- |  |   |         |   |
|--|---|---------|---|
| 1. Write a brief note on plant cell inclusions with neat labeled diagrams.                             | 4 | 10 min. | 6 |
| 2. What is meant by inflorescence?<br>Write a note on different inflorescence of a plant with diagram. | 4 | 10 min. | 6 |
| 3. Write a note on fungi & bacteria with suitable examples.  | 4 | 10 min. | 6 |
| 4. Write a short note on parts of a plant leaf and leaf modifications.                                 | 4 | 10 min. | 6 |
| 5. Write about the parts of flowers belonging to solanaceae family with neat labeled diagram.          | 4 | 10 min. | 6 |
| 6. Draw a neat labeled diagram of external features of frog.<br>Differentiate male & female frog.      | 4 | 10 min. | 6 |
| 7. What do you mean by animal kingdom?<br>Write a note on Amoeba with neat labeled diagram.            | 4 | 10 min. | 6 |
| 8. Write in detail about frog brain with neat labeled diagram.   | 4 | 10 min. | 6 |
| 9. Write a note on vertebrates with examples.  | 4 | 10 min. | 6 |
| 10. Explain the parts and functions of animal skin with a neat labeled diagram.                        | 4 | 10 min. | 6 |

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**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION****FIRST YEAR****PAPER VI – REMEDIAL BIOLOGY***Q.P. Code: 383831***Time: Three Hours****Maximum: 100 marks****Answer ALL questions in the same order.****I. Elaborate on :**

| Pages<br>(Max.) | Time<br>(Max.) | Marks<br>(Max.) |
|-----------------|----------------|-----------------|
|-----------------|----------------|-----------------|

- |  |    |         |    |
|--|----|---------|----|
| 1. Discuss about the stem modifications of the plants with examples. | 17 | 40 min. | 20 |
| 2. Briefly discuss about the Kingdom of Chordata with examples.      | 17 | 40 min. | 20 |

**II. Write notes on :**

- |  |   |         |   |
|--|---|---------|---|
| 1. Explain about the dermal tissue system of the plants with examples. | 4 | 10 min. | 6 |
| 2. Classify the types of inflorescence in flowers.                     | 4 | 10 min. | 6 |
| 3. Discuss about Dehiscent capsular fruits.                            | 4 | 10 min. | 6 |
| 4. Taxonomy of Leguminaceae.   | 4 | 10 min. | 6 |
| 5. Give a note on fungi.   | 4 | 10 min. | 6 |
| 6. Give a note on animal cell.   | 4 | 10 min. | 6 |
| 7. Epithelial tissue.  | 4 | 10 min. | 6 |
| 8. Nervous system of Frog.   | 4 | 10 min. | 6 |
| 9. Mineral absorption in the growth of plants.                         | 4 | 10 min. | 6 |
| 10. Give a note on Poisonous animals.                                  | 4 | 10 min. | 6 |

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[LC 831]

APRIL 2013

Sub. Code: 3831

**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION**

**FIRST YEAR**

**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code: 383831*

**Time: Three Hours**

**Maximum: 100 marks**

**Answer All questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Draw a neat labeled diagram of plant cell and explain the parts of cell inclusions with their functions.
2. What are mammals? Write an account on animal kingdom with examples.

**II. Write notes on:**

**(10 x 6 = 60)**

1. Write about the morphology of plant with neat labeled diagrams.
2. Write about the parts of flowers belonging to rubiaceae family with neat labeled diagram.
3. Write a detail note on types and functions of vascular bundles.
4. Explain Collenchyma and sclerenchyma with neat labeled diagrams.
5. Write a detail note on Yeast and Penicillin.
6. Explain about poisonous animals with suitable examples.
7. What do you mean by animal tissue? Write a note on cardiac tissue & skeletal muscle with neat labeled diagram.
8. Write in detail about Fish with neat labeled diagram.
9. Write a note on animal tissue with neat labeled diagram and their functions.
10. What are reptiles? Explain the parts and functions of reptiles with a neat labeled diagram.

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[LD 831]

OCTOBER 2013

Sub. Code: 3831

**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION**

**FIRST YEAR**

**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code: 383831*

**Time: Three Hours**

**Maximum: 70 marks**

**Answer All questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Give an account on plant kingdom and its classification.
2. Write the classification of animal tissues.  
Explain the structure and functions of animal tissues with neat diagrams.

**II. Write notes on:**

**(10 x 3 = 30)**

1. Write the functions of the following organelles of a plant cell:
  - a) Mitochondria.
  - b) Plasma- membrane.
2. Short notes on complex permanent tissues.
3. How will you differentiate leaf and leaflets.
4. Describe the morphology of flower with neat labeled diagram.
5. Name the medicinally important leaves and their medicinal uses.
6. Describe isolation of bacteria.
7. Write any six differences between plant cell and an animal cell.
8. Write short notes on poisonous reptile.
9. Write a note on spinal cord of frog.
10. What are Pisces? Explain the parts and function of Pisces with a neat labeled diagram.

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[LE 831]

APRIL 2014

Sub. Code: 3831

**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION**

**FIRST YEAR**

**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code: 383831*

**Time: Three Hours**

**Maximum: 70 marks**

**Answer All questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. What is growth?  
What are the factors responsible for promoting the growth of plants?
2. Describe the structure of plant cell and animal cell with neat labeled diagram.  
How will you differentiate plant cell from animal cell.

**II. Write notes on:**

**(10 x 3 = 30)**

1. What is applied botany? How is it sub-classified?
2. Muscular tissues.
3. Classification of plant kingdom.
4. Details of snake-poisoning treatment.
5. Therapeutical importance of vitamins.
6. Bacteria.
7. Draw a neat labeled diagram of external features of Frog.  
Differentiate male and female frog.
8. Draw neat and well labeled diagrams of ten types of shape of leaves.
9. What are underground modification of stems? Describe each with examples.
10. Characters of mammalian.

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[LF 831]

OCTOBER 2014

Sub. Code: 3831

**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION**

**(2009-2010 Regulation)**

**FIRST YEAR**

**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code: 383831*

**Time: Three Hours**

**Maximum: 70 marks**

**Answer All questions**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Define plant taxonomy and discuss in detail the morphological characters of umbelliferous fruits.
2. Describe the structure of Plant cell with a neat labelled diagram.
3. Explain the digestive system of frog.
4. What are ergastic substances? Explain in detail about the reserve foods.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Explain the various Plant inclusions
2. Define Transpiration. Describe the factors affecting transpiration
3. Write a note on Penicillins
4. Explain the Arterial system of frog
5. Describe the types of muscular tissue
6. List out the medicinal uses of Pisces

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[LG 831]

APRIL 2015

Sub. Code: 3831

**DOCTOR OF PHARMACY (PHARM.D) DEGREE EXAMINATION**

**(2009-2010 Regulation)**

**FIRST YEAR**

**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code: 383831*

**Time: Three Hours**

**Maximum: 70 marks**

**Answer All questions**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Define and classify animal tissues. Write a note on epithelial tissue system.
2. Describe the various components of an animal cell with a neat and labeled diagram.
3. What are enzymes?  
How are they classified?  
Describe factors affecting enzyme action.
4. Explain the various modification of root system with examples.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Differentiate plant cell and animal cell.
2. Describe the morphology of seeds with examples.
3. Write a note on Pollination.
4. Describe the general characters of aves.
5. Explain the Kidney of frog.
6. Write a short note on fungi.

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[LH 831]

OCTOBER 2015

Sub. Code: 3831

**PHARM. 'D' AND PHARM. 'D' (POST BACCALAUREATE)  
DEGREE EXAMINATION**

**(2009-2010 Regulation)**

**FOURTH YEAR**

**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code : 383831*

**Time: Three Hours**

**Maximum: 70 marks**

**Answer ALL questions**

**I. Elaborate on :**

**(4 x 10 = 40)**

1. Define and classify Plant tissues. Write a note on conducting tissue system.
2. Describe the underground modification of stem.
3. Explain the respiratory system of frog.
4. How Pisces are classified? Describe the general characteristics of Pisces.

**II. Write notes on :**

**(6 x 5 = 30)**

1. Write a note on Poisonous animals.
2. Describe the general characters of Reptiles.
3. Explain the general organization of mammals.
4. Write a note on types of bacteria.
5. Define Photosynthesis. Explain the process of photosynthesis.
6. Describe about Inflorescence.

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[LI 831]

APRIL 2016

Sub. Code: 3831

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**FIRST YEAR**  
**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code : 383831*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on :**

**(4 x 10 = 40)**

1. Describe about classification of plant kingdom with suitable example.
2. Describe the types and structure of Bacteria.
3. Explain the structure of plant cell and its inclusion with neat labeled diagram.
4. Describe the Excretory system of frog with neat labeled diagram.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Pollination of flowers.
2. Morphology of fruits with suitable example.
3. Pisces.
4. Reptiles.
5. Poisonous animals.
6. Epithelial tissue.

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[LJ 831]

OCTOBER 2016

Sub. Code: 3831

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**FIRST YEAR**  
**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code : 383831*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Discuss in detail the morphological characters of umbelliferous fruits.
2. Describe about classification of animal kingdom.
3. Discuss about the animal tissues.
4. Describe the digestive system of frog.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Taxonomy of Liliaceae.
2. Types of inflorescence.
3. Penicillin.
4. Difference between plant cell and animal cell.
5. General character of Aves.
6. Details of snake poisoning treatment.

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[LK 831]

MAY 2017

Sub. Code: 3831

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**FIRST YEAR**  
**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code : 383831*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Differentiate plant cell from animal cell with neat labeled diagram.
2. What are the types of leaves with example and what are the functions of leaves?
3. Explain the importance of taxonomy of plant. Discuss the taxonomical characters of Solanaceae.
4. Explain briefly the circulatory system of frog.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Differentiate meristematic and permanent tissues.
2. Define bacteria and discuss the types of bacteria with examples.
3. General characters of pisces and explain the medicinal importance with examples.
4. Define inflorescence. Distinguish racemose from cymose inflorescence.
5. Functions of mitochondria, plastids, ribosomes and golgi complex.
6. Define the following:
  - a) Angiosperm
  - b) Gymnosperm
  - c) Bryophyta
  - d) Thallophyta
  - e) Genus

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[LL 831]

OCTOBER 2017

Sub. Code: 3831

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**FIRST YEAR**  
**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code : 383831*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Explain the structure and functions of frog's heart.
2. Discuss in detail about morphology of leaf and flower.
3. Classification of plant kingdom.
4. Define plant tissue. Discuss the meristematic and permanent tissues.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Pollination of flowers.
2. Short note on poisonous animals.
3. Ergastic substances and its functions in plant.
4. Transpiration process of plants.
5. Differentiate monocotyledons and dicotyledons.
6. Discuss the taxonomical characters of umbelliferae.

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

[LM 831]

MAY 2018

Sub. Code: 3831

**PHARM. D DEGREE EXAMINATION  
(2009-2010 Regulation)  
FIRST YEAR  
PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code : 383831*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Define Fruit. Write detailed account on classification of fruits with examples.
2. Classify the Cryptograms. Describe the important characters of each class with examples.
3. Describe the types and structure of Bacteria.
4. Write a detailed note on digestive system of frog with neat labeled diagram.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Define seed. Write a note on modifications of seed.
2. Physiology of water absorption by plants.
3. Give a note on general characters reptiles.
4. Write differences between plant cell and an animal cell.
5. Explain the venous system of frog.
6. Write brief note on epithelial tissues.

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

[LN 831]

OCTOBER 2018

Sub. Code: 3831

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**FIRST YEAR**  
**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code : 383831*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Define Ergastic substances of plant. Discuss in detail account on excretory products of plant cell.
2. Describe the various modifications of root system for storage and support as functions.
3. Explain the structure and functions of frog's heart.
4. Write detailed note on taxonomical features of solanaceae family.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Explain the morphology of flower.
2. Write brief note on aerobic respiratory process of higher plant.
3. Write a note on general organization of Amphibia.
4. Explain the nervous system of frog.
5. Describe the types of connective tissues.
6. Write a note on vertebrates with examples.

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

[LO 831]

MAY 2019

Sub. Code: 3831

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**FIRST YEAR**  
**PAPER VI – REMEDIAL BIOLOGY**

*Q.P. Code : 383831*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Describe Mitosis and Miosis with the help of suitable diagrams.
2. Write the salient features of family Liliaceae with suitable examples, floral diagrams and formula.
3. Write the salient features of phylum Platy helminthes. Explain the life cycle of *Taenia solium*.
4. a) Describe complex permanent tissue.  
b) Describe the histological features of young Monocot stem with suitable diagrams.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Draw neat labelled diagram of animal cell.
2. Define types of leaf venation with suitable diagrams.
3. Write short notes on underground stem modifications.
4. Write short notes on simple and compound leaves.
5. Define Androecium. Write different types of fusion of stamens.
6. Write short notes on male reproductive system of frog.

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