

D3400416

GOVERNMENT OF KARNATAKA
(BOARD OF EXAMINING AUTHORITY)
D. Pharm. Part – I Examinations (ER-91), APRIL 2016
BIOCHEMISTRY AND CLINICAL PATHOLOGY

Time: 3Hours

Max. Marks: 80

Note: Answer any **TEN** questions from **Section – A** and **THREE** from **Section – B** including Question No. 14, which is compulsory.

SECTION – A

4 x 10=40

1. What are lipids? Classify them with examples.
2. Explain two colour reactions of proteins.
3. Define and classify coenzymes with example. Mention its functions.
4. Explain mutarotation and furfural formation.
5. Write the normal and abnormal constituents of urine.
6. Write a note on ketone bodies.
7. Explain about atherosclerosis.
8. Describe the structure, functions and deficiency disorders of cyanocobalamine.
9. Explain the balance sheet of water.
10. Write the pathways of HMP.
11. Explain deamination and decarboxylation.
12. Define and classify amino acids with examples.
13. Explain abnormalities of RBC's

SECTION – B

- 14.a) Name the different pathways of carbohydrate metabolism.
- b) Describe the pathway involved in the oxidation of glucose. 4+10

OR

- a) Define proteins. Describe the reactions of urea cycle.
- b) Discuss protein deficiency diseases. 8+6
15. Describe in detail β -oxidation of fatty acids with its energetics. 9+4
16. Define and classify enzymes with examples. Explain the various factors affecting enzyme action. 6+7
17. Write short notes on a) Ascorbic acid. b) Selwinoff's reaction. c) Denaturation of proteins d) Enzyme specificity 4+3+3+3

D3400613

GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D. PHARM., PART - I EXAMINATIONS (ER-91)
BIOCHEMISTRY AND CLINICAL PATHOLOGY

Max. Marks - 80

Time: 3 Hrs

Note: Answer any TEN questions from Section-A and THREE from Section -B including Question No. 14, which is compulsory.

4 X 10 = 40

SECTION - A

- 30
K
20
12
03
02
01
00
01. What are carbohydrates? Classify them with examples.
 02. Mention the factors affecting enzymatic activity. Explain any one of them.
 03. Describe the role of lymphocytes in diseases.
 04. Write note on Ketone bodies.
 05. Discuss the biological importance of Proteins.
 06. Write any four qualitative tests for Lipids.
 07. Enumerate the biological functions of Iron and Phosphates.
 08. List out types abnormal Erythrocytes and their importance in diagnosis.
 09. Discuss the role of water in life process.
 10. What are essential Amino acids? Give the structure of any two.
 11. What are vitamins? Classify them with examples.
 12. Write structure and functions of Vitamin C.
 13. List out the normal and abnormal constituents of urine.

SECTION - B

- 12
14. Describe Kreb's citric acid cycle with its significance. 14

OR

15. Write note on a) Glycosuria b) Glucose tolerance test c) Gluconeogenesis. 14
4+5+4
16. Give colour reactions of proteins. Add note on protein deficiency diseases. 8+5
17. Discuss a) Non-competitive enzyme inhibition b) Fatty acids c) Decarboxylation reactions of amino-acids. 4+5+4

PRIYADARSHINI COLLEGE OF PHARMACY, KORATAGERE

FIRST YEAR – D.PHARM

SUBJECT: BIOCHEMISTRY AND CLINICAL PATHOLOGY

THIRD SESSIONAL

TIME-1 HOUR

Max Marks 20

Section:A

Answer any Two

(6x2=12)

1. Explain citric acid cycle giving its significance.
2. Describe the de novo synthesis of fatty acids starting from acetyl COA
3. Explain reactions of Urea cycle and discuss its importance.

Section:B

Answer All

(2x4=8)

4. List out the abnormal constituents of urine.
5. What is cholesterol? Enumerate its functions.
6. Enumerate the functions of sodium and potassium in human body.
7. Write a note on role of Lymphocytes in body's defence mechanism.

PRIYADARSHINI COLLEGE OF PHARMACY, KORATAGERE

FIRST YEAR – D.PHARM

SUBJECT: BIOCHEMISTRY AND CLINICAL PATHOLOGY

THIRD SESSIONAL

TIME-1 HOUR

Max Marks 20

Section:A

Answer any Two

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3. Explain reactions of Urea cycle and discuss its importance.

Section:B

Answer All

(2x4=8)

4. List out the abnormal constituents of urine.
5. What is cholesterol? Enumerate its functions.
6. Enumerate the functions of sodium and potassium in human body.
7. Write a note on role of Lymphocytes in body's defence mechanism.

D3600416

**GOVERNMENT OF KARNATAKA
(BOARD OF EXAMINING AUTHORITY)**

D. Pharm. Part – I Examinations (ER-91), April -2016

HEALTH EDUCATION AND COMMUNITY PHARMACY

Time: 3Hours

Max. Marks: 80

Note: Answer any TEN questions from Section – A and THREE from Section – B including Question No. 14, which is compulsory.

SECTION – A

4X10=40

1. Define health. Describe mental health.
2. What is meant by balanced diet? Give its composition.
3. Classify disease causing agents with examples.
4. Discuss the causes of high birth rate.
5. Give the sources and functions of proteins.
6. What are the advantages and disadvantages of laparoscopic method of contraception?
7. Mention the sources of water and causes of water pollution.
8. Write the causative organism, mode of spread, signs and symptoms of tuberculosis.
9. Discuss the sources, functions, daily requirement and deficiency disorder of Calcium.
10. Explain the stages of demographic cycle.
11. List out the risk factors of cardiovascular diseases.
12. Name the causative organism for a) Tetanus b) Leprosy c) Syphilis d) Plague.
13. Define a) Incubation period b) Fomitis c) Antigen d) Vaccine.

SECTION – B

14. a) What are the causes of air pollution? Describe the prevention and control measures of air pollution.
- b) Discuss on solid waste disposal. (8+6)

OR

Describe the morphology of bacteria and explain different methods of isolation of bacteria.

15. a) Define first aid. What are the objectives and principles of first aid? (5+9)
- b) Classify fractures. Explain the first aid treatment of fractures. (7+6)
16. a) Describe malarial cycle. Mention preventive and control measures of malaria.
- b) Discuss the causes, prevention and control measures of blindness (8+5)
17. a) Write the disinfection procedure for faeces, sputum and room.
- b) Give the details of national immunization schedule (6+7)

D3600613

GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D. PHARM., PART -I EXAMINATIONS (ER-91)
HEALTH EDUCATION AND COMMUNITY PHARMACY

Time: 3 Hrs

Max. Marks – 80

Note: Answer any **TEN** questions from **Section-A** and **THREE** from **Section-B** including Question No. 14, which is compulsory.

SECTION – A

4 X 10 =40

4. 01. Write the sources of water supply and causes of water pollution.
2. 02. Define the balanced diet. Give its composition.
4. 03. Discuss briefly various factors affecting fertility.
4. 04. Explain emergency treatment for shock.
05. Write a note on Septic tank.
2. 06. Name various diseases spread by housefly and mosquito.
2. 07. Explain acid fast staining.
2. 08. List out four intestinal infections and their causative organisms.
2. 09. What are the factors responsible for cardiovascular diseases?
2. 10. Differentiate active and passive immunity.
2. 11. Mention the sources of noise. What are its adverse effects?
2. 12. Explain prevention and control of malaria.
2. 13. Define and classify disinfectants with examples.

SECTION – B

14. a) Describe the morphology of bacteria.
b) Explain the different methods of isolation of bacteria. 5+9
- OR
6. 15. a) Define health. Discuss various dimensions of health. 7+7
6. b) Describe different stages of prevention of diseases.
6. 15. a) Describe the source, function and deficiency of vitamin-A and iron. 8+5
b) Write a note on permanent contraception
6. 16. a) Define epidemiology. Give its aim and uses.
1. b) What is population explosion? Describe the role of Pharmacist in family planning 6+7
1. 17. Write causative organism, mode of transmission, clinical symptoms and preventive measures of AIDS. 13

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3600611

**GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D. PHARM Part I EXAMINATION (ER-91)**

HEALTH EDUCATION AND COMMUNITY PHARMACY

Time: 3 Hrs.

Max. Marks: 80

Note: Answer any TEN questions from section A and any THREE from section B, including question No. 14, which is compulsory.

SECTION – A

4 X 10 = 40

01. Define Health, comment on how the socio-economic condition influence on health
02. Define protein, write its function, source and daily requirement
03. Explain the protein energy malnutrition diseases.
04. Classify minerals and write the role of minerals in human physiological functions.
05. Write the source, daily requirement, functions and deficiency of vitamin B12.
06. Explain the first aid treatment for burns.
07. Explain the procedure for Gram staining.
08. Give daily requirement, sources and deficiency disorders for iron.
09. Write the chemical disinfection methods of water.
10. Write a note on septic tank.
11. Classify the bacteria according to their shape.
12. What is epidemiology? Classify epidemiology.
13. Write the causative agent, signs and symptoms and any two drugs used for the treatment of malaria.

SECTION – B

40 Marks

14. a) Discuss in detail on various indicators of health
- b) Brief the role of Pharmacist in health education

10 + 4

OR

Write the important objectives of family planning. Give various methods of family planning. Discuss any two methods in detail. Write the role of Pharmacist in family planning.

2 + 3 + 6 + 3

15. Define vitamin. Write any two fat soluble and three water soluble vitamins with their sources, daily requirements, functions and name diseases due to their deficiency. 13
16. List out various sexually transmitted diseases and describe any two of them in detail. 13
17. Write four examples for both communicable and non-communicable diseases. Write various modes of transmission of communicable diseases. Write the causative agents, sign and symptoms and preventive measures of TB. 13

D3501216

**GOVERNMENT OF KARNATAKA
(BOARD OF EXAMINING AUTHORITY)**

D. Pharm. Part – I Examinations (ER-91), December -2016

HUMAN ANATOMY AND PHYSIOLOGY

Time : 3 Hrs

Max. Marks: 80

Note: Answer any **TEN** questions from **Section – A** and **THREE** from **Section – B** including Question No. 14, which is compulsory

SECTION – A

4 X 10 = 40

01. What are connective tissues? Give examples. Write the functions of connective tissue.
02. What is clotting and explain the physiology of clotting
03. What is osteology? Write the functions of skeletal system
04. Write the differences between the arteries and veins
05. Explain the physiology of both internal and external respirations
06. Classify muscles and explain the physiology of skeletal muscle contraction.
07. Name any two renal and two cardiovascular diseases
08. Define cardiac cycle and name various stages in it.
09. Define the following: a) Vital capacity, b) Neutropenia, c) Blood pressure and d) Cretinism
10. What is lymph and write the functions of it
11. Name different diseases of eye and explain myopia
12. Write the differences between sympathetic and parasympathetic systems
13. List out the hormones secreted by anterior and posterior pituitary gland

SECTION – B

14. a) Draw a neat labeled diagram of heart and explain the physiology of systemic circulation and pulmonary circulation
 - b) Explain the physiology of hearing with diagram. 8+6
- OR**
- a) Classify joints with examples and discuss synovial joints
 - b) Write the different types of vertebrae and write names of bones in skull 7+7
15. a) Write anatomy and physiology of pancreas
 - b) What is menstrual cycle? Explain the phases of menstrual cycle. 6+7
16. What is digestion and absorption? List out various enzymes involved in digestion of Food. Explain the structure and functions of stomach. 7+6
- 17 a) Explain the structure and functions of cerebrum with diagram and explain the role of hypothalamus in CNS functioning.
 - b) What is Reflex Arc? Explain it with diagram. 7+6

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GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D. PHARM., PART – I EXAMINATIONS (ER-91)
HUMAN ANATOMY AND PHYSIOLOGY

Time: 3 Hrs

Max. Marks – 80

Note: Answer any **TEN** questions from **Section-A** and **THREE** from **Section – B** including Question No. 14, which is compulsory.

SECTION – A

4 X 10 =40

- ✓ 01. Define the following terms: a) Endocrine gland b) Blood pressure c) Vital capacity d) Polycythaemia.
02. Write the functions of Lymph.
- 2 ✓ 03. List out the differences between Artery and Vein.
- 2 ✓ 04. Give the composition and functions of Bile.
- 3 ✓ 05. Name the bones of upper Limb.
- ✓ 06. Enumerate the functions of the Skin.
- ✓ 07. Write a note on Junctional tissues of Heart.
- 2 ✓ 08. Draw a neat labelled diagram of Ear.
- 3 ✓ 09. Classify joints with examples. Name any two joint disorders.
- 3 ✓ 10. Draw a neat labelled diagram of Respiratory system.
- ✓ 11. Describe the structure and functions of Stomach.
- ✓ 12. Describe Reflex arc with the help of a diagram.
- 4 ✓ 13. Explain the structure of Tooth with neat labelled diagram.

SECTION – B

14. Explain the anatomy of Heart with the help of labelled diagram and explain the Cardiac cycle. **8+6**

OR

- 5 ✓ Draw a neat labelled diagram of eye. Explain the physiology of vision. Describe Myopia. **5+6+3**
15. a) Describe with diagram the different types of WBC and give their functions.
- 2 ✓ b) Explain the coagulation of blood. **7+6**
16. a) Draw a neat labelled diagram of Nephron.
- 8 ✓ b) Explain the process of digestion of carbohydrates and fats. **4+9**
17. a) Write the functions of liver.
- b) Write the structure and functions of pancreas. **7+6**

D3500611

**GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D. PHARM Part I EXAMINATION (ER-91)**

Time: 3 Hrs

HUMAN ANATOMY AND PHYSIOLOGY

Max. Marks: 80

Note: Answer any TEN questions from section A and any THREE from section B, including question No. 14, which is compulsory. Draw neat labeled diagrams wherever required.

SECTION – A

4 X 10 = 40 Marks

01. Enumerate the functions of blood.
02. Explain the different types of cartilage tissue.
03. Describe the power house of a cell.
04. Draw a neat labeled diagram of ear.
05. What are joints? Explain the movable joints.
06. Describe the muscles involved in respiration.
07. List the functions of liver.
08. Draw a neat labeled diagram of the kidney.
09. Describe the pulmonary circulation.
10. Explain a reflex action.
11. Write briefly about menstrual cycle.
12. Define the terms myocardial infarction and hypertension.
13. Name the hormones secreted by pituitary gland.

SECTION – B

40 Marks

14. a) What are the events of a cardiac cycle?
b) Explain the mechanism of blood clotting 7 + 7
- OR
- Describe the different parts of eye with a neat labeled diagram and explain the physiology of vision 4 + 4 + 6
15. a) Describe the process of spermatogenesis.
b) Describe the process of digestion of carbohydrates 6 + 7
16. a) List the differences between ANS and CNS 5 + 4 + 4
b) What are the functions of medulla and cerebellum?
17. a) Explain the mechanism of respiration 8 + 5
b) List out the functions of skin

D3500206

Applied - 06
Feb - 2008

**GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D.PHARM. PART I EXAMINATIONS (ER-91)**

TIME-3Hours]

[Max. Marks-80

HUMAN ANATOMY AND PHYSIOLOGY

NOTE:-Answer any TEN questions from Section-A and any THREE

Questions from Section-B including question No. 14 which is compulsory.

(Write diagrams wherever required)

SECTION-A

4X10=40

1. Write briefly on blood groups and Rh factor.
2. Explain the functions of blood.
3. Write a note on portal circulation.
4. Explain the functions of bile.
5. Describe cardiac cycle.
6. Explain the digestion in small intestine.
7. Describe the structure of nephron with a neat labeled diagram.
8. Write a note on skeletal muscle.
9. Explain the differences between sympathetic and parasympathetic system.
10. Write a note on lymph nodes.
11. Define blood pressure and explain the recording of blood pressure.
12. Define the following terms, a)Glaucoma b)Anaemia c)Angina d)Cardiac arrhythmias
13. Write a note on synapse.

SECTION-B

14. Define and classify tissues, describe the structure location and functions of epithelial tissue. 14

OR

Name the organs of respiratory systems, describe the structure of lungs and explain the physiology of respiration

3+5+6

15. Draw a neat labeled diagram of C.N.S and explain the functions of cerebrum and cerebellum

5+8

16. a) Define endocrine gland, name the hormones of anterior pituitary gland b) Write the functions of thyroid hormones and name their hyper and hypo secretion diseases.

5+8

17. Draw a neat labeled diagram of human ear and explain the physiology of hearing

5+8

D3500205

GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D.PHARM. PART I EXAMINATIONS (ER-91)

Time-3 Hours]

[Max.Marks-80

HUMAN ANATOMY AND PHYSIOLOGY

NOTE: Answer any **TEN** questions from Section-A and any **THREE** questions from Section-B including question No. 14 which is compulsory.

SECTION-A

4X10=40

1. Classify teeth and draw a neat labeled diagram of tooth.
- ~~2.~~ Write the functions of any four enzymes.
- ~~3.~~ Draw a neat labeled diagram of brain.
4. Explain the physiology of hearing.
- ~~5.~~ Write a note on digestion of fat.
- ~~6.~~ Explain the mechanism of respiration.
7. Write the functions of thyroxine.
8. Draw a neat labeled diagram of cross section of skin.
9. Classify muscles with examples.
10. Name the valves and the blood vessels associated with heart.
11. Classify the bones based on shape with examples.
12. Write a note on small intestine.
13. Draw a neat labeled diagram of pancreas and name the hormones secreted.

24
30
5/4

SECTION-B

14. a) Describe the functions of blood elements in detail. d) Explain the disorders of blood. 7+7

OR

Define hormone. List all the hormones secreted by anterior pituitary gland and mention their functions. 2+7+5

15. Draw a neat labeled diagram of eye ball. Explain the physiology and defects of vision. 6+4+3
16. Describe the male reproductive system with the help of neat labeled diagram. Add a note on spermatogenesis. 9+4
17. a) Draw a neat labeled diagram of kidney. a) Discuss the different steps of urine formation. 5+8

6



D3501203

April-03

**GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D.PHARM. PART-I EXAMINATIONS (ER-91)**

Time-3 Hours]

[Max.Marks-80

HUMAN ANATOMY & PHYSIOLOGY

NOTE: Answer any **TEN** questions from Section-A & any **THREE** questions from Section-B including question No.14 which is compulsory.

SECTION-A

4 X 10=40

- 20*
21
30
1. Classify tissues with an example for each class.. Write the functions of epithelial tissues.
 2. Write a brief note on erythropoiesis.
 3. Describe reflex arc with the help of a diagram.
 4. Explain the factors affecting the blood pressure.
 5. Describe the structure of neuron with a neat labeled diagram.
 6. Write a note on CSF.
 7. Explain the mechanism of internal respiration.
 8. Name of enzymes of pancreatic juice and write their functions.
 9. Explain the identifying features of scapula with a neat labeled diagram.
 10. Explain the functions of cerebrum.
 11. Write briefly on posterior pituitary gland.
 12. Define the following terms: (a) Endocrine gland (b) Tidal volume (c) Polycythemia vera (d) Cretinism.
 13. Enumerate the functions of skin.

SECTION-B

14. With the help of a neat labeled diagram describe the anatomy of heart and explain cardiac cycle (4+4+6)

OR

With a help of neat labeled diagram describe the anatomy of Liver and explain its functions. (4+4+6)

15. With the help of a neat labeled diagram of eye explain the mechanism of vision and add a note on glaucoma. (5+6+2)

16. Write a neat labeled diagram of nephron and explain the mechanism of formation of urine. Name the normal constituents of urine. (3+8+2)

17. (a) Draw a neat labeled diagram of female reproductive system.

(b) Write a note on menstrual cycle.

(c) Define the following: (i) Puberty (ii) Menopause. (4+7+2)

D3501202

Aug-02

Government of Karnataka
BOARD OF EXAMINING AUTHORITY
D. Pharm Part-1 Examination (ER-91)
Human Anatomy & Physiology

Time:- 3 Hours]

[Max.Marks:-80

[Note: Answer any TEN questions from Section A and any THREE questions from Section B including question No. 14 which is compulsory.]

SECTION-A

(4 X 10=40)

1. Explain synovial joint with a diagram.
2. Name the different types of blood groups. Write the importance of blood group during blood transfusion.
3. Write a neat labeled diagram of Heart.
4. Classify muscular tissue and write the characteristic feature of any one of them.
5. Explain in short internal and external respiration.
6. Explain the physiology of Micturition.
7. Define cell and name the different organelles of cell.
8. Define endocrine glands. Name the hormones of the anterior pituitary gland and write their functions.
9. Name the different layers of skin and write the functions of the skin.
10. With a neat labeled diagram explain the anatomy of kidney.
11. Write the composition of pancreatic juice and their functions.
12. Write the effect of sympathetic nervous system on different organs.
13. Write the structure and functions of testis.

SECTION-B

14. Name the special junctional tissues of the heart and write their functions. Explain the changes taking place in the heart during one heart beat in detail. (6+8)

Or

Write the composition and function of blood. What is blood clotting. Explain the mechanism of clotting in detail.

(7+7)

15. Write a neat labeled diagram of an ear. Explain the physiology of hearing and impaired hearing. (13)
16. Draw a neat labeled diagram of brain. Write the functions of Cerebrum and Medulla Oblongata. Draw a reflex arc. (5+6+2)
17. Draw a neat labeled diagram of G.I.T. Explain the digestion and absorption of carbohydrates in G.I.T. listing out the enzymes involved in it. (6+7)

D3201216

GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D. Pharm. Part – I Examinations (ER-91), December 2016
PHARMACEUTICAL CHEMISTRY I

Time : 3 Hrs

Max. Marks: 80

Note: Answer any **TEN** questions from **Section – A** and **THREE** from **Section – B** including Question No. 14, which is compulsory

SECTION-A

4 X 10 =40

- 1) Define the terms 'inhalant' and 'expectorant' with two examples each along with formula.
- 2) Write any two identification tests each for potassium and carbonate ions.
- 3) Define antacid. Mention two examples. Add a note on combination therapy.
- 4) Write the chemical name, formula and use of the following
 - a) Green vitriol b) Blue vitriol c) Chlorinated lime d) Tartar emetic
- 5) Define with a suitable example, 'acid' and 'base' according to Arrhenius and Lewis theories.
- 6) Draw a neat labelled diagram of Geiger-Muller Counter. Mention its use.
- 7) Write a note on saline cathartics.
- 8) Explain the method of preparation of ammoniated mercury. Mention its use.
- 9) Write the formula and category of the following:
 - a) Titanium dioxide b) Sodium nitrite c) sodium bisulphite d) Potassium citrate.
- 10) Write the principle and procedure involved in the assay of potassium permanganate.
- 11) Define the terms 'limit test' 'normality' 'assay' and 'test for purity'
- 12) Discuss the physical, chemical properties and uses of calamine.
- 13) Enumerate the official compounds of calcium with their chemical formula and uses.

SECTION-B

- 14) a) Discuss 'raw material' and 'storage conditions' as sources of impurities in pharmaceutical substances. What are the effects of impurities when present in pharmaceuticals?
a) Enumerate the official preparations of Iodine and add a note on Lugol's solution.

8+6

OR

Explain the procedure, principle and reaction involved in the limit for sulphate I.P. and the limit for iron I.P. elaborating the role of the reagents used. 6+8

- 15) a) Write in detail about the dental products with suitable examples. Discuss the importance of fluoride in dental products.
b) Principle and reaction involved in the assay of magnesium sulphate I.P. 8+5
- 16) Write a note on a) Radio opaque contrast media b) Oral rehydration salt
c) Quality control. 4+5+4
- 17) a) Write in detail about protectives.
b) Procedure, principle and reaction involved in the assay of ammonium chloride I.P.
c) Explain physiological acid-base balance.

4+5+4

D3200613

GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D. PHARM., PART -I EXAMINATIONS (ER-91)
PHARMACEUTICAL CHEMISTRY - I

hw

Time: 3 Hrs

Max. Marks - 80

Note: Answer any TEN questions from Section-A and THREE from Section -B including Question No. 14, which is compulsory.

SECTION - A

4 X 10 =40

01. Write the assay of boric acid.
02. What are antioxidants? Give examples. Write the mechanism of action. 2
03. Write the synonym and uses of: a) Sodium carbonate, b) Zinc Sulphate, c) Copper Sulphate, d) Sodium potassium tartrate. 2
04. What are astringents? Give examples and write molecular formula of any one. 2
05. Define acid and base according to Arrhenius theory and Lewis theory. 4
06. Name the official compounds of calcium with their chemical formula and uses. 1
07. Write the preparation and uses of milk of magnesia.
08. Draw a neat labelled diagram of Arsenic limit test.
09. Give reasons for the following:
a) Use of Sulphuric acid in Hydrogen peroxide assay.
b) Use of Lead acetate cotton in Arsenic limit test.
10. Write the identification test for Ammonium and Sulphate radicals.
11. Write note on Expectorants. 2
12. Give one example for each of the terms: a) Anti-caries agent b) Emetics c) Antidote d) Acidifying agent. 2
13. Give the uses and storage, stability conditions of the following: a) Hydrogen peroxide b) Potassium permanganate. 2

SECTION - B

14. a) Explain the sources of impurities in pharmaceutical substances. (8+6)
b) Write a note on radio opaque contrast media. (8+6)
- OR
- a) Discuss the limit test for lead as per IP. (4+5+4)
b) Write the principle and procedure of limit test for iron. (5+4+4)
15. a) Define and classify antacids with examples. (4+5+4)
b) Write the mechanism of action and properties of an ideal antacid. (4+5+4)
c) Add a note on Saline cathartics. (4+5+4)
16. Explain the method of preparation and uses of: a) Aluminium hydroxide gel b) Potassium iodide c) Chlorinated lime. (5+4+4)
17. Write notes on: a) Respiratory stimulants b) Oral rehydration salt c) Assay of Ammonium chloride. (4+5+5)

3

D3200414

GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D. PHARM., PART –I EXAMINATIONS (ER-91), April-2014
PHARMACEUTICAL CHEMISTRY – I

Time: 3 Hrs

Max. Marks – 80

Note: Answer any **TEN** questions from **Section-A** and **THREE** from **Section –B** including Question No. 14, which is compulsory.

SECTION – A

4 X 10 =40

1. Discuss the principle and reactions involved in the assay of potassium permanganate.
2. What are antioxidants? Discuss their importance with examples.
3. Write a note on expectorant giving examples from inorganic compounds.
4. Define buffer solutions and mention their importance in pharmaceutical preparations.
5. Explain the principle of boric acid assay.
6. Give a reason for the use of : a) Ammonia solution and citric acid in iron limit test
b) Formaldehyde in the assay of ammonium chloride.
7. List out the official compounds of aluminium and iron and mention their medicinal uses.
8. Describe the sources of impurities with examples in Pharmaceuticals
9. Write principle and chemical reactions involved in the assay of ferrous sulphate.
10. What are antacids? Classify with example.
11. Write the chemical formula and complete the reactions;
a) Potassium permanganate + ethyl alcohol →
b) Lead acetate + hydrogen sulphide →
12. Define the following a) normality b) monograph c) bactericide d) equivalent weight
13. Write the formula and category of the following drugs
a) Alum b) bleaching powder c) sodium citrate d) Borax.

SECTION – B

14. Describe the principle involved in the limit test for arsenic with reactions and give procedure with labelled diagram of apparatus used. (4+6+4)

OR

Explain the principle involved in the assay of

- a) Aqueous iodine solution b) Silver nitrate
c) Sodium chloride d) Sodium bicarbonate (14)

15. a) Write a note on oral rehydration salt

b) Discuss the method of preparation and uses of

- i) Zinc oxide ii) Potassium iodide iii) Milk of magnesia. (4+9)

16. Write a short note on : a) Quality control b) Dental products (7+6)

17. a) Write the chemical name and uses of i) Blue vitriol ii) Epsom salt iii) Baking soda
iv) Tartar emetic

b) List the official compounds of calcium with their chemical formulae, synonyms if any and uses

- c) Write a note on saline cathartics. (6+4+3)

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D3201216

GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D. Pharm. Part – I Examinations (ER-91), December 2016
PHARMACEUTICAL CHEMISTRY I

Time : 3 Hrs

Max. Marks: 80

Note: Answer any **TEN** questions from **Section – A** and **THREE** from **Section – B** including Question No. 14, which is compulsory

SECTION-A

4 X 10 =40

- 1) Define the terms 'inhalant' and 'expectorant' with two examples each along with formula.
- 2) Write any two identification tests each for potassium and carbonate ions.
- 3) Define antacid. Mention two examples. Add a note on combination therapy.
- 4) Write the chemical name, formula and use of the following
 - a) Green vitriol b) Blue vitriol c) Chlorinated lime d) Tartar emetic
- 5) Define with a suitable example, 'acid' and 'base' according to Arrhenius and Lewis theories.
- 6) Draw a neat labelled diagram of Geiger-Muller Counter. Mention its use.
- 7) Write a note on saline cathartics.
- 8) Explain the method of preparation of ammoniated mercury. Mention its use.
- 9) Write the formula and category of the following:
 - a) Titanium dioxide b) Sodium nitrite c) sodium bisulphite d) Potassium citrate.
- 10) Write the principle and procedure involved in the assay of potassium permanganate.
- 11) Define the terms 'limit test' 'normality' 'assay' and 'test for purity'
- 12) Discuss the physical, chemical properties and uses of calamine.
- 13) Enumerate the official compounds of calcium with their chemical formula and uses.

SECTION-B

- 14) a) Discuss 'raw material' and 'storage conditions' as sources of impurities in pharmaceutical substances. What are the effects of impurities when present in pharmaceuticals?
 - a) Enumerate the official preparations of Iodine and add a note on Lugol's solution.

8+6

OR

Explain the procedure, principle and reaction involved in the limit for sulphate I.P. and the limit for iron I.P. elaborating the role of the reagents used. 6+8

- 15) a) Write in detail about the dental products with suitable examples. Discuss the importance of fluoride in dental products.
 - b) Principle and reaction involved in the assay of magnesium sulphate I.P. 8+5
- 16) Write a note on a) Radio opaque contrast media b) Oral rehydration salt
 - c) Quality control. 4+5+4
- 17) a) Write in detail about protectives.
 - b) Procedure, principle and reaction involved in the assay of ammonium chloride I.P.
 - c) Explain physiological acid-base balance. 4+5+4

D3200416

GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D.PHARM, PART-I EXAMINATIONS (ER-91) APRIL-2016

Time:3Hrs

Max Marks:80

PHARMACEUTICAL CHEMISTRY-I

Note: Answer any **TEN** questions from **Section – A** and **THREE** from **Section – B** including Question No. 14, which is compulsory

SECTION-A

4x10 =40

1. Write any two identification test for ferrous and sulphate ions
2. Give the reasons of the following a) Citric acid is used in the iron limit test
b) Glycerol is used in the boric acid assay
3. Write the principle involved in the assay of potassium permanganate.
4. Write preparation and uses of milk of magnesia.
5. Write the preparation of ammoniated mercury.
6. Write the formula and category of the following a) Bleaching powder b) Borax
c) Sodium thiosulphate d) Sodium citrate
7. Define and classify antidote with suitable examples.
8. Give an example with their molecular formula
a) Emetics b) Disinfectant c) Acidifying agent d) Anticaries.
9. Write note on role of fluoride in dental products
10. Define the terms a) Bactericide b) Protectives c) Pharmaceutical aid d) Astringent
11. Write the principle and procedure involved in sulphate limit test.
12. Define the following terms a) Normality b) Monograph c) Equivalent weight
d) Buffers
13. Complete and balance the reaction with chemical formula
a) Sodium thiosulphate + Iodine-→
b) Lead acetate + Hydrogen sulphide-→

SECTION-B

14. Write the principle involved in the limit test for Arsenic with suitable reaction. Give the procedure with neat labelled diagram of apparatus used. 4+6+4
OR
 - a) Define and classify intracellular and extracellular electrolytes with examples.
 - b) Write their importance. Add a note on ORS 8+6
15. Write the principle involved in the assay of a) Aluminium hydroxide gel
b) Zinc oxide c) Magnesium sulphate. 5+4+4
16. Write a note on Radio Pharmaceuticals with their biological effects. Add a note on measurement of radio activity 9+4.
17. a) Define and classify antacids with examples.
b) Explain the principle and procedure involved in the assay of
i) sodium bicarbonate ii) Hydrogen peroxide 4+4+5

D3100517

GOVERNMENT OF KARNATAKA
(BOARD OF EXAMINING AUTHORITY)
D. Pharm. Part – I Examinations (ER-91), May-2017
PHARMACEUTICS-I

Time: 3Hours

Max. Marks: 80

Note: Answer any TEN questions from Section – A and THREE questions from Section – B including Question No. 14, which is compulsory

SECTION – A

4 x 10 = 40

1. Enumerate the factors affecting evaporation.
2. Write a note on new drug delivery systems
3. How will you mix 95% v/v alcohol, 60% v/v alcohol and 50% v/v to get 70% v/v alcohol.
4. Explain the construction and working of a triple roller mill.
5. Give the advantages and disadvantages of Plastic as a material of containers.
6. Describe size separation by sieving.
7. Explain infusion and decoction processes.
8. List the advantages of coating tablets.
9. Write a note on film coating.
10. Give the special applications of soft gelatine capsules.
11. Differentiate Filtration and Clarification.
12. Enumerate excipients used in the formulations of tablets with examples.
13. Write a note on Filter media.

SECTION –B

14. a) Explain Continuous hot extraction with the help of a neat diagram
b) Describe the preparation of Water for Injection 7 +7
or
- a) Define Sterilization. List the methods of sterilization 2+4
b) Explain mechanical methods of sterilization 8
15. a) Explain Freeze drying process with the help of a neat diagram.
b) Explain Disintegration Test I.P 7 +6
16. Explain the construction and working of
a) Silverson Mixer cum Emulsifier b) Tray Dryer c) Hot air Oven 5 +4+ 4
17. Write notes on
a) Sugar coating b) Sizes of Hard gelatine Capsule Shells c) Isotonic Solutions 5 + 4 + 4

D3101216

GOVERNMENT OF KARNATAKA

(BOARD OF EXAMINING AUTHORITY)

D. Pharm. Part – I Examinations (ER-91), December-2016

PHARMACEUTICS-I

Time: 3Hours

Max. Marks: 80

Note: Answer any **TEN** questions from **Section – A** and **THREE** from **Section – B** including Question No. 14, which is compulsory

Section-A

4 X 10=40

1. Give a brief history of Indian Pharmacopoeia.
2. Write a note on new drug delivery systems.
3. In what proportion 20%, 15%, 5% and 3% zinc oxide ointment be mixed to produce 10% ointment?
4. Write a note on aerosols.
5. Describe the construction and working of Hammer mill.
6. Write a note on filter media.
7. Differentiate between evaporation and distillation.
8. Explain elutriation.
9. Enumerate the factors affecting filtration.
10. Explain the principle of freeze drying.
11. Explain the weight variation and hardness test for tablets.
12. Write a note on grading of powders.
13. Define infusion and decoction.

Section B

14. a) Define sterilization. Classify the different methods of sterilization. 2+4
b) Describe mechanical and chemical methods of sterilization. 8
OR
a) Define and classify tablets. Describe the different granulation technique for production of tablets 1+3+6
b) Write a note on enteric coating of tablets. 4
15. a) Explain continuous hot extraction with a neat diagram.
b) Describe the construction and working of Stokes still for preparation of water for injection IP. 7+6
16. a) Describe the method of preparation of Diphtheria antitoxin.
b) Describe the manufacture of soft gelatin capsule. 7+6
17. Write note on a) Colloid mill b) Fluidized bed dryer c) Rubber closures. 4+5+4

D3100416

GOVERNMENT OF KARNATAKA
(BOARD OF EXAMINING AUTHORITY)
D. Pharm. Part – I Examinations (ER-91), April -2016
PHARMACEUTICS-I

Time: 3 Hours

Max. Marks: 80

Note: Answer any **TEN** questions from **Section – A** and **THREE** from **Section – B** including Question No. 14, which is compulsory

SECTION – A

4 x 10=40

1. Write briefly the history of Indian Pharmacopoeia.
2. Write briefly about sterilization by radiation.
3. Write a note on working of fluidized bed dryer.
4. Define homogenisation. Write the working of Silverson mixer cum emulsifier.
5. Enlist any four ayurvedic dosage forms. Explain any one.
6. Differentiate between hard gelatin and soft gelatin capsules.
7. List the advantage and disadvantage of plastic as a material for containers.
8. How will you prepare 600ml of 40% alcohol from 90% alcohol?
9. What is sieve? State the different official grades of powders.
10. Draw a neat diagram and explain the working of colloid mill.
11. Describe the construction of sintered glass filter.
12. Classify different dosage forms.
13. Describe the construction and working of evaporating pan.

SECTION – B

14. a) Define size reduction. Discuss the factors affecting size reduction.
b) Discuss the construction and working of Hammer mill and Disintegrator 7+7
- OR**
- a) Explain the construction and working of a still used for preparing water for injection.
b) With a help of a neat labelled diagram describe in detail percolation process 7+7
15. a) Define and classify tablets with examples.
b) Discuss the role of various excipients used in the formulation of tablets with examples. 5+8
16. Write short notes on the following
a) Hot air oven b) Hard gelatin capsules c) Meta filter. 5+5+3
17. a) Mention the differences between active and passive immunization.
b) Describe the method of preparation of Diphtheria antitoxin. 5+8

D3300611

**GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D. PHARM Part I EXAMINATION (ER-91)**

Time: 3 Hrs

PHARMACOGNOSY

Max. Marks: 80

Note: Answer any TEN questions from section A and any THREE from section B, including question No. 14, which is compulsory. Draw neat labeled diagrams wherever required.

SECTION – A**4 x 10 = 40 Marks**

01. What are surgical dressings? Classify with examples.
02. Define enzymes. Give the source and uses of any TWO enzymes
03. Name a drug, which has the following active constituents:
a) Vitamin C b) Vincristine c) Strychnine d) Eugenol
04. Define resins. Write their properties and classification with examples.
05. Write the differences between volatile oil and fixed oil
06. Define alkaloids. Write the tests to identify alkaloids
07. Define and classify pharmaceutical aids with examples
08. Explain biological evaluation of drugs.
09. Give the biological source, active constituents and uses of
a) Guggulu b) Chalmooogra oil c) Ginger d) Pyrethrum
10. Define a) Stomatal Number b) Sutures c) Ligatures d) Palisade ratio
11. Write a note on saponin glycoside
12. Write the identification test for Aloe and Agar
13. Give the official source, active principles and any two drugs used as laxatives

SECTION – B**40 Marks**

14. Describe the microscopical characters of Clove and Cinchona with the help of a neat labeled diagram 8 + 6
- OR
- Write notes on a) Life cycle of ergot b) Indigenous of system of medicine 7 + 7
15. Write cultivation and collection of Opium and Digitalis 7 + 6
16. a) Explain different methods of classification of crude drugs with examples
b) Define adulteration and give any five methods of adulteration 8 + 5
17. Describe the morphology of the following with the help of neat labeled diagram
a) Digitalis b) Nutmeg c) Ipecac 5 + 4 + 4

D3300416

GOVERNMENT OF KARNATAKA
(BOARD OF EXAMINING AUTHORITY)
D. Pharm. Part – I Examinations (ER-91), APRIL 2016
PHARMACOGNOSY

Time: 3Hours

Max. Marks: 80

Note: Answer any **TEN** questions from **Section – A** and **THREE** from **Section – B** including Question No. 14, which is compulsory

SECTION – A

4 X 10=40

1. Give the name and active constituents of any one drug belonging to the following category
a) Cardiotoxic b) Antileptotic c) Antitussive d) Flavouring agent
2. Define and classify Tannins with suitable examples.
3. Explain morphological classification of Crude drugs with suitable examples.
4. Write a brief note on scope of Pharmacognosy.
5. Explain the following tests a) Combined Umbelliferone b) Modified Borntrager's test
6. Write notes on Diastase and Papain.
7. Write the source, preparation and uses of Cotton.
8. Describe the morphology with a neat labeled diagram for a) Nuxvomica b) Fennel
9. Write the name and active constituents of any one drug belonging to the following families
a) Papavaraceae b) Rutaceae c) Apocyanaceae d) Rubiaceae
10. Describe life cycle of Ergot.
11. Give the biological source and therapeutic effect for the following
a) Shankhapushpi b) Colchicum c) Shatavari d) Liquorice
12. Write the differences between Black catechu and Pale catechu.
13. Write the biological source and chemical constituents for Ashwagandha and Cannabis.

SECTION – B

14. Define evaluation. Name the different methods of evaluation. Discuss morphological and microscopical evaluation with suitable examples. 2+2+5+5

OR

- a) What is Adulteration? Write a brief note on different types of Adulteration
- b) With the help neat labelled diagram, describe the microscopy of Cinnamon bark. 7+7
15. Write short notes on a) Volatile Oils b) Resins 7+6
16. Write the method of cultivation, collection and preparation of Opium and Digitalis 7+6
17. Write short notes
a) Natural Pesticides b) History of Pharmacognosy c) Pharmaceutical aids 4+5+4



D3300610

**GOVERNMENT OF KARNATAKA
BOARD OF EXAMINING AUTHORITY
D.PHARM, PART-I EXAMINATIONS (ER-91)**

Time-3 Hrs

Max.Marks-80

PHARMACOGNOSY

Note:- Answer any **ten** questions from **Section-A** and **three** questions from **Section-B** including question No.14 which is compulsory. Write diagrams wherever required.

SECTION-A

4x10 = 40

1. List out any four important phytoconstituents and mention one drug for each type with their biological source and use.
2. Give one example for a drug used as following category and write its active constituents. a) Diuretic b) Antileprotic.
3. Define the following a) Ash value b) Extractive values c) Laxatives d) Carminatives.
4. Write the organoleptic characters of Myrrh and Tolu balsam.
5. Write the chemical constituents and uses of the following drugs a) Ipecac b) Dioscorea.
6. Define cardiotoxic and give the chemical constituents of any two drugs of the same category.
7. Describe the pharmacological classification of crude drugs with merits and demerits.
8. Give the biological source, chemical constituents and uses of Pterocarpus and Garlic.
9. Explain the microscopical characters of fennel fruit.
10. Name the drug with its chemical constituents used as a) Anticancer b) Antitussive c) Emetic c) Antiseptic
11. Explain the morphological characters of licorice root.
12. Name the drug and give its biological source and uses for the following constituents. a) Vitamin-A b) Eugenol.
13. Name and give the active constituents of one drug belonging to the following family. a) Papaveraceae b) zingiberaceae c) Acanthaceae d) Gneataceae

SECTION-B

14. Name different methods for evaluation for crude drugs. Explain the organoleptic and physical evaluation with suitable examples. 3+6+5

OR

Describe anatomical features of Cinchona and Senna with neat labeled diagram. 7+7

15. Write source, preparation and identification tests for the following. 4+4+5
a) Alginate fibres b) Wool c) Absorbent cotton
16. Give the collection and processing of Rauwolfia and Senna 7+6
17. Write short note on a) Solanaceous drugs b) Gums and Mucilage c) Oxytocics 5+4+4

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