B. Pharmacy 2nd Semester Question Paper 2017-2018

PHR-203 127

Even Semester Examination 2017

B.PHARMA. (II SEMESTER)

ANATOMY, PHYSIOLOGY & PATHOPHYSIOLOGY

Time: 03:00 Hours **Max Marks : 100**

Note: Attempt all questions, each question carry equal marks.

1 Attempt any four questions: (5x4=20)

a) Define hormone. Describe the role of different hormone secreted by pituitary gland.

b) Draw neat and clean diagram of kidney.

c) Write basic Anatomy of eye.

d) Define spermatogenesis.

e) Write in detail about physiology of ear.

2 Attempt any two questions: (10=20)

a) Write the physiology of urine formation using necessary schematic.

b) Explain the mechanism of spermatogenesis or oogenesis.

3 Write short notes on (any four) (5x4=20)

a) Balance diet

b) Tuberculosis

c) ADH

d) Family planning

e) Thyroid gland

4 Attempt any four questions: (5x4=20)

a) Write a brief note on structure and function of skin.

b) Write in brief about physiology of eye.

c) Write in brief about adrenal gland.

d) Write in brief about communicable disease.

e) Define AIDS. Describe the causes and prevention of AIDS.

5 Attempt any four questions: (5x4=20)

a) Discuss the major role of vitamins in human body.

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Paper Code & Roll No. to be filled in your Answer Book

Roll No. :

Even Semester Examination-2017

B.Pharma. (Semester - II)

PHARMACEUTICAL CHEMISTRY

(ORGANIC CHEMISTRY-II)

(PHR-201)

Time : 3 Hours **Maximum Marks: 100**

Note: Attempt all questions, the marks assigned to each question is indicated at question itself.

1. Attempt ***any four*** questions: (5×4= 20)

   a) Define alkanes. Discuss about the synthesis and properties of alkanes.

   b) Define isomerism. What are the various types of isomerism.

   c) Define alcohols. Discuss about the synthesis and properties of alcohols.

d) Write down about electrophilic aromatic substitution reaction. What happens after oxidation of benzene.

e) Define aldehydes. Discuss about the synthesis and properties of aldehydes.

2. Attempt ***any four*** questions: (5x4=20)

a) What is carboxyllic acid. Discuss about the synthesis and properties of alkanes.

b) What is free radical substitution reaction.

c) What is hybridization.Give hybridization of CCl_4, H_2O, C_6H_6, C_2H_5OH.

d) Define resonance.

e) Define inductive effect.

3. Attempt ***any two*** questions: (10x2=20)

a) What is Grignard reagent. Discuss about its synthesis and application

b) Write IUPAC name of following compounds

$CH_3CH_2CH_2CN$, $CH_3CH_2SCH_2CH_2CH_3$,

$CH_3(CH2)_3Cl$, $CH_3(CH_2)_4CHO$,

$CH_3CH_2COCH_2CH_3$

c) What is covalent, electrovalent and coordinate bond.

4. Attempt ***any four*** questions: (5x4=20)

a) Whatis enantiomers. Give two eg.

b) Give reaction for ozonolysis of alkenes.

c) Write down about preparation of alkynes.

d) What is molecular orbital theory.

e) What is aryl halides.

5. Attempt ***any two*** questions: (10x2=20)

a) Preparation of aryl halides.

b) What is amines. Synthesis of amines.

c) What is phenol. Discuss about its synthesis and application

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Even Semester Examination 2017

B.PHARMA. (II SEMESTER)

PHARMACEUTICS-II

(PHYSICAL PHARMACY-II)

Time: 03:00 Hours **Max Marks : 100**

Note: Attempt all questions, each question carry equal marks.

1 Write short notes on any four questions: (5x4=20)

a) Latent heat and vapor pressure

b) Eutectic mixture with suitable examples

c) Crystalline and amorphous mixture with suitable examples

d) Polymorphism with examples

e) Solubility of liquids in liquid

2 Attempt any two questions: (10x2=20)

a) What is buffer capacity? Explain the various methods for adjusting tonicity. Explain the importance of pharmaceutical buffers

b) Define diffusion. Describe steady state of diffusion. Explain the factors affecting dissolution.

c) Define solubility. Describe solubility of gases in liquid. Explain the factors affecting solubility.

3 Write short notes on any four questions: (5x4=20)

a) Determination of order of reaction.

b) Characteristics of homogeneous and heterogeneous catalysis.

c) Theories of reaction kinetics

d) Colligative properties

e) Partition coefficient

4 Attempt any two questions: (10x2=20)

a) Conductance and its measurement Debye Huckel theory.

b) Ideal and real solutions

c) Solution of gases in liquids

5. Write short notes on (any two): (10x2=20)

a) Chemical kinetics of zero and first order reactions

b) Calculation and methods of adjusting tonicity.

c) Enzyme catalysis.

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Even Semester Examination, 2017-18

B.PHARMA. (SEMESTER-II)

HUMAN ANATOMY AND PHYSIOLOGY-II

Time: 03:00 Hours **Max Marks : 75**

Note : Attempt all sections.

SECTION-A

Note : Attempt every question. 20 marks **(10×2)**

Q1. What is outermost layer of meanings called?

Q2. The point at which nerve impulse passes from one neuron to another neuron is called. 2

Q3. What is the upper part of the stomach called?

Q4. Write down the name of the first part of the colon.

Q5. Write the term used for the amount of air which passes into and out of the lungs during each cycle of quiet breathing.

Q6. Write the number of lobes the right lung is divided into.

Q7. What is the process of excretion of urine called?

Q8. Write the name of the enzyme which converts angiotensin I to angiotensin II.

Q9. The hormone that stimulates lactation and has a direct effect on breasts after childbirth is called.

Q10. Write the name of the hormone secreted by para follicular or C-cells in the thyroid gland.

SECTION-B

Note : Answer any seven questions out of nine. **(7×5)**

Q1. Describe and write down the function of various parts of cerebrum in brief.

Q2. Write a brief note on cerebrospinal fluid.

Q3. Write a note on adenosine triphosphate (ATP).

Q4. Explain the anatomy of lungs with the help of a diagram.

Q5. Write a brief note on thyroxine and triodothyronine.

Q6. Describe the anatomy of uterus in brief.

Q7. Write a note on renal calculi.

Q8. Explain DNA with the help of a diagram.

Q9. Write down the process of acid formation in the stomach in brief.

SECTION-C

Note : Answer any two questions out of three. **(2×10)**

Q1. Write down the anatomy and functions of various parts of the spinal cord with the help of a diagram.

Q2. Write down the anatomy and function of liver in detail.

Q3. Write in detail about the anatomy and functions of the male reproductive system with the help of a diagram.

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Even Semester Examination 2017-18

B.Pharma. (SEMESTER-II)

PHARMACEUITICAL CHEMISTRY-II

(ORGANIC CHEMISTRY-I) (Old Syllabus)

Time: 03:00 Hours **Max Marks : 100**

Note : Attempt **All** questions. Attempt questions as per instructions given.

Q.1. Attempt **any four:** (5x4=20)

(a) What is the importance of stereochemistry in organic compounds ?

(b) What is the aromatic character of benzene with suitable examples.

(c) Give the sequence rule for R&S configuration.

(d) Write short note on atomic orbital and molecular orbital.

(e) Give general methods of preparation of arenes.

Q.2. Answer **any four** of the following: (5x4=20)

(a) Write a note on inductive effect.

(b) Classify structural isomerism.

(c) Write a note on primary, secondary and tertiary amines.

(d) What is plane polarised light and how is it obtained.

(e) Write the nucleophilic substitution reactions in aromatic compounds.

Q.3. Attempt **any four** of the following: (5x4=20)

(a) Write the free radical substitution reaction in alkenes ?

(b) Write a note on hybridization.

(c) Give general methods of preparation of alcohols.

(d) Write short note on sigma and Pi bond.

(e) Give general methods of preparation of ketones.

Q.4. Attempt **any two** of the following: (10x2=20)

(a) What is anti-Markonikov addition? Describe the mechanism and specify reaction conditions required.

(b) Write a detail note on electrovalent, covalent and co-ordinate bond.

(c) Explain the rules of IUPAC system of nomenclature.

Q.5. Attempt **any two** of the following: (10x2=20)

(a) What is resonance? Explain with suitable examples.

(b) Discuss 1,2 and 1,4 addition in dienes with mechanism.

(c) What is the difference between SN^1 and SN^2 reactions?

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Even Semester Examination 2017-18

B.PHARM (SEMESTER-II)

(OLD SYLLABUS)

PHYSICAL PHARMACY – I

(PHARMACACEUTICS – II)

Time: 03:00 Hours **Max Marks : 100**

Note : Attempt all questions as per instructions.

1 Attempt **any four** parts : 5X4=20

(a) What is polymorphism? Give its importance in pharmacy.

(b) Write notes on: a) Liquid Crystal b) Eutectic mixtures

(c) Discuss the principals underlying the formulation of aerosols.

(d) Discuss the factor affecting the solubility of gases in liquids.

(e) What do you understand by ideal and real solution?

2 Attempt **any four** parts : 4x5=20

(a) What are buffers? Drive the buffer equation for a weak acid and its base.

(b) What do you understand by buffer capacity?

(c) Write notes on:

(i) Cosolvency

(ii) Solubility Product

(d) Explain accelerated stability analysis.

(e) How will you drive first order rate equation?

3. Attempt **any two.** **10x2=20**

(a) Discuss the effect of following on the rate of decomposition of drugs.

Light Solvent pH Temp

(b) What are the various route of chemical decomposition of drugs? Describe the method to stabilize the product in each case.

(c) Define sublimation giving examples of materials which exhibits sublimation. With the use of phase diagram, illustrate the principle of sublimation.

4 Attempt **any two** parts. **10x2=20**

(a) Discuss the solubility of solids in liquids. What factors affect the solubility of solids in liquids?

(b) Explain the methods used for the measurement and adjustment of the tonicity of solutions.

(c) Write an account on Pharmaceutical Buffers.

5 Attempt **any two** parts **10x2=20**

(a) Explain Debye-Huckel Theory.

(b) Explain the role of Specific acid base catalysis on decomposition of drugs.

(c) Explain the influence of solvents and surfactant on the solubility of weak electrolyte.

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PHR-203 (Old Syllabus) 201

Even Semester Examination 2017-18

B.PHARMA (SEMESTER-II)

ANATOMY, PHYSIOLOGY, AND PATHOPHYSIOLOGY-II

Time: 03:00 Hours **Max Marks : 100**

NOTE: Attempt **all** five questions. Each question carries equal marks.

1. Write notes on **any four** 5×4=20

   (a) Spermatogenesis and oogenesis

   (b) Physiology of menstruation

   (c) Male reproductive system

   (d) Methods of family planning

   (e) Sex differentiation

2. Attempt **any two**. 10×2=20

   (a) Define endocrine system. And discuss the anatomy and physiology of pituitary gland.

   (b) Explain the anatomy and physiology of thyroid and adrenal gland.

   (c) Write type of cells and hormones of pancreatic islets. Explain the action and regulation of glucagon and insulin secretion.

3. Attempt **any four**. 5×4=20

(a) Write short note on formation of urine.

(b) Draw the well labeled diagram of urinary system and nephron.

(c) Write note on role of kidney in acid- base balance.

(d) Describe maturation in detail.

(e) Discuss the function of kidney in detail.

4. Attempt **any two**. 10×2=20

(a) Explain the anatomy of ear with labeled diagram and describe the physiology of hearing

(b) Write anatomy and function of skin.

(c) Write short notes on eye and taste buds

5. Attempt **any two**. 10×2=20

(a) Discuss the concept of health and disease. Write in detail about communicable diseases.

(b) Write in detail about nutritional deficiency diseases.

(c) Write short note on classification of food requirements and balance diet.

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Even Semester Examination 2017-18

B.PHARMA (NEW) (SEMESTER-II)

BIOCHEMISTRY

Time: 03:00 Hours **Max Marks : 75**

Note : Attempt all questions :

1. Attempt all questions: (10×2= 20)

   (a) Bile acid is synthesized in.....

   (b) Name of ketone bodies .....

   (c) Glucose 6 phosphate is converted into glucose in the presence of enzyme .....

   (d) Bilirubin is .....

   (e) Enzyme responsible for conversion of pyruvate to lactate is.....

   (f) Normal blood uric acid level is.....

   (g) Carbomyl phosphate reacts with ornithine to form.....

   (h) End product of purine nucleotides metabolism is _____

   (i) Terpenes is the example of.....

   (j) Non protein part of enzyme is known as.....

2. Attempt any two questions: (10×2= 20)

   (a) Beta oxidation of saturated fatty acids and its energetic with the example of palmitic acid.

   (b) Explain gluconeogenesis pathway and its significance.

   (c) Describe hexose mono phosphate shunt and its significance.

3. Attempt any seven questions: (5×7= 35)

(a) Discuss about hormonal regulation of blood glucose level.

(b) Synthesis of steroidal hormone from vitamin D.

(c) Define ketone bodies and synthesis of ketone bodies

(d) Explain in detail urea cycle.

(e) Define and classify the enzymes with suitable example.

(f) Discuss citric acid cycle and its energetics

(g) Explain exergonic and endergonic reaction with examples.

(h) Biosynthesis of purine nucleotides.

(i) Explain enzyme kinetics in detail.

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Even Semester Examination 2017-18

B.PHARM. (SEMESTER-II)

(As per PCI Pattern)

PATHOPHYSIOLOGY

Time: 03:00 Hours **Max Marks : 75**

Note: Attempt **all** questions.

I. Attempt all questions: **(20×1= 20)**

1. Apoptosis can be defined as
   a. Programmed cell growth
   b. Programmed cell death
   c. Programmed cell maturity
   d. None of the above
2. Replacement of one epithelium by other
   a. Aplasia
   b. Metaplasia
   c. Hyperplasia
   d. Atrophy
3. Necrosis means
   a. Efflux of calcium ion
   b. Swelling of cell
   c. Enzymatic degradation
   d. Fat deposition
4. Both hypertrophy and hyperplasia are seen in
   a. Pregnant uterus
   b. Liver regeneration
   c. Pancreas
   d. None
5. Steatosis means
   a. Fatty changes
   b. Accumulation of triglycerides
   c. Accumulation of glycogen
   d. Accumulation of pigment

6. The primary cause of heart failure is

a. Arterial hypertension

b. Coronary atherosclerosis

c. Myocardial dysfunction

d. Valvular dysfunction

7. Ketoacidosis is commonly associated with all of the following except

a. Diabetes mellitus

b. Diabetes insipidus

c. Starvation

d. Dehydration

8. The commonest cause of ischemic necrosis is

a. Hypoxia

b. Chemical agents

c. Physical agents

d. Microbial infection

9. Duodenal peptic ulcer are associated with

a. Chlorhydria

b. Hypochlorhydria

c. Hyperchlorhydria

d. Normochlorhydria

10. A tumor that is progressive, rapidly multiply and invade tissue beyond the origin is

a. Differentiated

b. Non- differentiated

c. Malignant

d. Benign

11. What kind of virus is HIV?

a. Rotavirus

b. Retrovirus

c. Rhinovirus

d. Coronavirus

12. Typhoid fever is transmitted by

a. Contaminated food and fluid

b. Droplet nuclei

c. Infected syringes and needles

d. Sexual intercourse

13. Hepatitis A

a. Is a benign, self limiting disease

b. Has a mean incubation period of 1-4 months

c. Frequently causes fulminant hepatitis

d. IgM is not a reliable marker of acute infection

14. The following symptoms may indicate a seizure disorder

a. Period of blackout or confused memory

b. Episodes of blank staring

c. Convulsion, with or without altering consciousness

d. All of the above

15. Depression is an

a. Affecting disorder

b. Organic disorder

c. Mood disorder

d. Dissociate disorder

16. Alzheimer's is the most common form of which of these

a. Malnutrition

b. Dementia

c. Fatigue

d. Psychosis

17. The part of brain mostly affected in Parkinson disease is

a. Corpus striatum

b. Putamen

c. Substantia nigra pars compacta

d. Thalamus

18. Major symptom of diabetes are

a. Polyuria

b. Polyphagia

c. Polydepsia

d. All of the above

19. Cynocobalamin deficiency is a causes

a. Pernicious anemia

b. Microcytic anemia

c. Macrocytic anemia

d. Pellagra

20. Common symptom of asthma is

a. Wheezing

b. Whistling

c. Full breath

d. Snoring

II. **Attempt any two questions:** **(10×2= 20)**

1. Define cell injury. Discuss the causes and pathogenesis of cell injury.
2. Explain etiology, pathophysiology, clinical manifestation and complication of hypertension and asthma.
3. What is psychosis? Write in detail about psychiatric disorders.

III. **Attempt any seven questions:** **(5×7= 35)**

1. What is inflammation? Discuss detail about mechanism of inflammation.
2. Write short notes on inflammatory bowel disorders or COPD.
3. Explain etiology and pathophysiology of thalasemia and typhoid.
4. Give a brief notes on etiology and pathophysiology of cancer.
5. Explain in detail about epilepsy and gout.
6. Write short on tuberculosis and leprosy.
7. Write pathophysiology and complications of peptic ulcer and stroke.
8. Explain etiology, pathogenesis and symptoms of RA and peptic ulcer.
9. Write short notes on Alzheimer's disease and AIDS.

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Even Semester Examination 2017-18

B. PHARMA (SEMESTER-II) (OLD)

UNIT OPERATION-I (PHARMACEUTICS-III)

Time: 03:00 Hours **Max Marks : 100**

Note: Attempt **all** questions

Q1. Attempt (**any four**) (5x4=20)

a. Explain dimensionless equations.

b. Enlist mixer for semisolid and explain shear mixer.

c. Write short note on various filter medium used in Pharmacy.

d. Write a note on the application of mixing and size reduction in pharmacy.

e. Write short notes on **any two** :

(a) Significance of Reynolds number

(b) Basic of unit operation

(c) Fluid Mass Transfer,

Q2. Attempt (**any four**) (5x4=20)

a. Write note on Methods of Heat Transfer.

b. Write in details Mechanism of Fluid flow.

c. Explain Ball mill with neat diagram.

d. Explain the principle, construction and working of Filter Leaf,.

e. Give the principle, working, advantages and disadvantages of roller mill.

Q3. Attempt (**any four**) (5x4=20)

a. Explain Sedimentation and Elutriation technique.

b. Give the Pharmacopoeal classification of powder.

c. Explain steady state and unsteady state with example.

d. Differentiate between Black body and Grey body.

e. Define powder and write five characteristics of Ideal powder.

Q4. Attempt (**any two**) (10x2=20)

a. Describe the principle, construction and working of double cone mixer.

b. Define centrifugation. Explain principle and working of perforated basket centrifuge.

c. Give Principle, material of construction , Applications advantages and disadvantages of cyclone separator,

Q5. Attempt (**any two**) (10x2=20)

a. Difference between filtration and clarification. Discuss the factors affecting rate of filtration.

b. Give the principle, construction, merits, demerits and working of filter press.

c. Give the principle, construction, merits, demerits and working of conical disc centrifuge.

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Even Semester Examination, 2017-18

B.PHARMA. (SEMESTER-II)

REMEDIAL MATHEMATICS

Time: 03:00 Hours **Max Marks : 100**

Note : Attempt **all** questions. Each question carry equal marks.

1. Attempt any **four** parts: [5×4=20]

(a) Solve $3x+\frac{3}{x}=10$

(b) Solve $(x-3)(x+7)=0$

(c) Prove the following results $\begin{vmatrix} a+b & a & b \\ a & a+c & c \\ b & c & b+c \end{vmatrix} = 4abc$

(d) Solve the system of equation using Cramer's rule.

$$\begin{aligned} 2x+y-z &= 3 \\ x+2y+2z &= 4 \\ x+y+z &= 2 \end{aligned}$$

(e) If $A=\begin{bmatrix} 9 & 7 & 3 \\ 5 & -1 & 4 \\ 6 & 8 & 2 \end{bmatrix}$ find Adjoint A *and* A^{-1}

2. Attempt any **four** parts: [5×4=20]

(a) Prove that $\frac{1-\cos A}{\sin A}=\frac{\sin A}{1+\cos A}$

(b) Find the value of $\sin^2 45^0+\cos^2 45^0+\tan^2 30^0$

(c) Prove that $\frac{\sin A + \sin 3A}{\cos A + \cos 3A} = \tan 2A$

(d) ind the value of $Sin\ 22\frac{1}{2}^{0}$

(e) Prove that $\frac{\cos 3\theta + 2\cos 5\theta + \cos 7\theta}{\cos\theta + 2\cos 3\theta + \cos 5\theta} = \frac{\cos 5\theta}{\cos 3\theta}$

3. Attempt any **four** parts: [5×4=20]

(a) Show that the points A (1, -1), B (5, 2) and C (9, 5) are collinear.

(b) Find the equation to the locus of the point equidistance from the points A (1, 3) and
B (2, 1).

(c) Find the slope and the equation of line joining the points (2, -5) and (4, 1).

(d) Find the equation of line passing through the points (-3, 4) and (1, -3).

(e) Find the area of triangle whose vertices are given as (1, 2), (-2, 4), (2, 6).

4. Attempt any **two** parts: [10×2=20]

(a) If $y = \log\cos x$ find $\frac{dy}{dx}$

(b) If $y = \frac{5x^2 + 6x + 7}{2x^2 + 3x + 4}$ find $\frac{dy}{dx}$

(c) Evaluate $\int\left(\frac{\sec x}{\sec x - ten\, x}\right)dx$

5. Attempt any **two** parts: [10×2=20]

(a) for the following frequency table, find the mean:

Class	100-120	120-140	140-160	160-180	180-200	200-220	220-240
Frequency	10	8	4	4	3	1	2

(b) Find the median from the following distribution:

Class	5-10	10-15	15-20	20-25	25-30	30-35	35-40
Frequency	12	15	18	20	12	10	6

(c) Calculate mean deviation mode for the following distribution :

Class	5-15	15-25	25-35	35-45	45-55	55-65
Frequency	12	19	26	23	14	6

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