



**Knowledge Resource & Relay Centre (KRRC)**

AIKTC/KRRC/SoP/ACKN/QUES/2019-20/

Date: \_\_\_\_\_

School: SoP-CBCSBranch: SoPSEM: II

To,  
 Exam Controller,  
 AIKTC, New Panvel.

Dear Sir/Madam,

Received with thanks the following **Semester/Periodic** question papers from your exam cell:

Sr. No.	Subject Name	Subject Code	Format		No. of Copies
			SC	HC	
1	APP - II	BPH_C_201_T		✓	02
2	Biochemistry - II	BPH_C_202_T		✓	02
3	Pharmacognosy - I	BPH_C_203_T		✓	02
4	Hospital Pharmacy and Drug Store Management	BPH_C_204_T		✓	02
5	Environmental Science	BPH_C_205_T		✓	02

Note: SC – Softcopy, HC - Hardcopy

(Shaheen Ansari)  
 Librarian, AIKTC

SEM-II CBCS 26/11/19

(3 Hours)

[Total Marks: 80]

- N.B.: 1) All questions are compulsory  
 2) Figures to the right indicate full marks  
 3) Draw neat, labeled diagrams wherever necessary.

Q.1. A) Answer the following: -

16

- What is decussation of pyramids? Give its location.
- Name the releasing and inhibiting hormone for human growth hormone.
- Give the functions of Type I and Type II cells of respiratory membrane.
- Enlist any four causes of cerebral hypoxia.
- Justify: Olfaction is a chemical sense.
- What is diabetes insipidus?
- Define metaplasia and give one example of the same.
- Define: Respiratory alkalosis

Q1. B) Answer the following: -

4

- \_\_\_\_\_ is a region of retina responsible for visual acuity.
- Weight gain is a symptom of \_\_\_\_\_. (Hyperthyroidism / Hypothyroidism)
- Spinothalamic tract is \_\_\_\_\_. (Ascending sensory/ Descending Motor)
- Enlist the gas laws governing exchange of gases during respiration.

Q.2. A) Answer the following: -

8

- What is Hyperplasia? Explain the mechanism and give one example of the same.

or

Write a short note on cellular adaptation.

- Write a short note on pathogenesis of cancer.

or

Explain the cytomorphological differences between Benign and Malignant tumour cells

Q.2.B) Answer any one the following

4

- Explain the biological effects of X rays.
- Write a short note on the different types of nuclear radiations and explain their effects on human body.

SEM-II CBCS 26/11/2019

**Q.3.A) Answer any two the following:** 8

- i. Give an account of the neuroglia in the central nervous system.
- ii. Write a note on function of cerebrospinal fluid and blood brain barrier.
- iii. Discuss the structure and the function of the cerebellum.

**Q.3.B) Discuss the pathophysiology of (any one)** 4

- i. Epilepsy
- ii. Depression

**Q.4.A) Answer any two the following:** 8

- i. Draw neat and labeled diagram of terminal bronchiole showing the alveolar sac.
- ii. Explain process of inhalation and exhalation.
- iii. Discuss transport of carbon dioxide in blood.

**Q.4.B) Discuss the pathophysiology of (any one)** 4

- i. Respiratory acidosis
- ii. Emphysema

**Q.5.A) Answer any two the following:** 8

- i. Explain the physiological effects of glucocorticoids.
- ii. Describe the role of thyroid and parathyroid gland in calcium homeostasis.
- iii. Explain in detail hormones of pancreatic islets.

**Q.5.B) Discuss the pathophysiology of (any one)** 4

- i. Thyrotoxicosis
- ii. Gigantism and Dwarfism

**Q.6.A) Answer any two the following:** 8

- i. Give an account of the taste buds on the tongue.
- ii. Write a note on glands associated with the skin.
- iii. Discuss the structure and the function of the retina.

**Q.6.B) Answer any one the following** 4

- i. State the effect of adrenaline on the following: bronchi, heart, salivary gland, pupil of the eye
- ii. Discuss adrenergic and cholinergic receptors.

SEM - II CBCS  
03/12/19

Q.P. Code: 37317

(3 hours)

Total Marks: 80

N.B.: All questions are compulsory

Q1

- |  |   |
|--|---|
| a) Enlist the precursors used for pyrimidine biosynthesis.   | 1 |
| b) Oxidation of two acetyl CoA molecule via TCA cycle gives ----- ATPs                                 | 1 |
| c) Name any two enzymes involved in Glycogen synthesis   | 1 |
| d) Give any one regulatory step of <i>de novo</i> synthesis of purine nucleotide.                      | 1 |
| e) Name the inhibitor of COX.  | 1 |
| f) Name the drug which modulates uric acid synthesis.  | 1 |
| g) Give the reaction catalysed by HMG CoA reductase  | 2 |
| h) Name the enzyme, substrate and product formed in the rate-limiting step of fatty acid biosynthesis. | 2 |
| i) Give the significance of Pentose phosphate pathway  | 2 |
| j) Define proton motive force  | 2 |
| k) Give the name of enzyme and its deficiency disorder involved in purine salvage pathway.             | 2 |
| l) Calculate the total ATPs obtained in $\beta$ -oxidation of 18:1 ( $\Delta^9$ )                      | 2 |
| m) Name one inhibitor drug and the enzyme it inhibits in Glycolysis.                                   | 2 |

Q2 (a) Give the names and structures of substrate and product, coenzyme for the following enzyme catalysed reaction (Any four) 8

- i)  $\beta$ -ketoacyl ACP reductase
- ii) Lactonase
- iii) Citrate synthase
- iv) Prostacycline synthase
- v) HMG CoA synthase

(b) Give the name of the enzyme catalysing the following conversion 4

- i) trans- $\Delta^2$ - Enoyl CoA to L- $\beta$ -hydroxyl acyl CoA
- ii) Aspartate to N-carbamoylaspartate
- iii) Malate to oxaloacetate
- iv) Glucose -6-phosphate to 6-phosphoglucono- $\delta$ -lactone

Q3 (a) Write the three irreversible reaction of glycolysis. 3

(b) Give the reaction catalysed by transketolase. 3

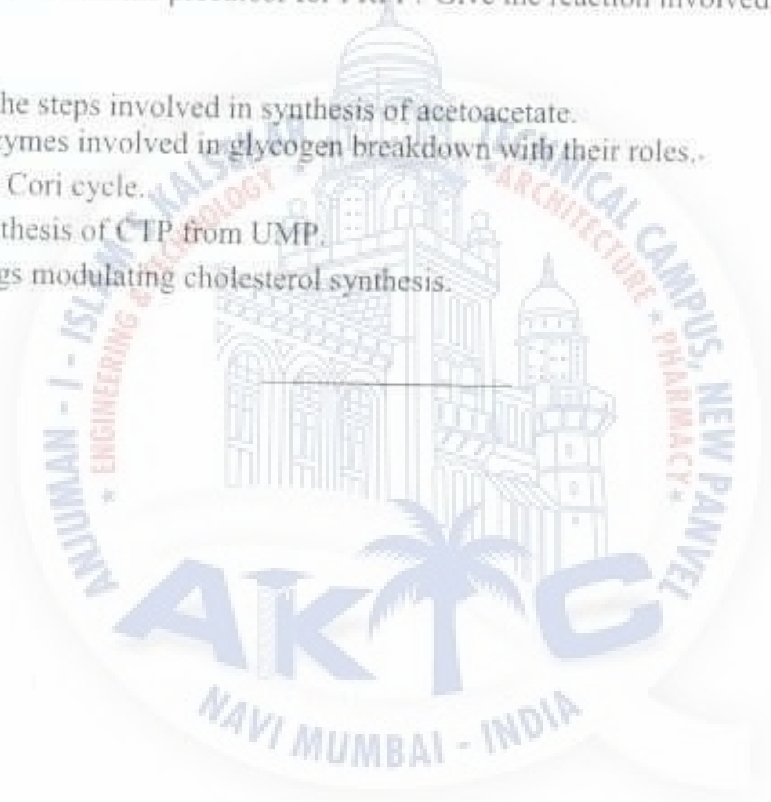
(c) Explain the carnitine shuttle involved in oxidation of fatty acids. 2

(d) Give the two strategies for synthesis of phospholipids. 2

(e) Outline the steps involved in synthesis of AMP from IMP. 2

Q.P. Code: 37317

- Q4. (a) Explain the components of ETC 3  
 (b) Write the activation and transport shuttle for fatty acid biosynthesis. 3  
 (c) Discuss the importance of ketone bodies. 2  
 (d) Give names of two enzymes with the reactions which are only present in glyoxylate cycle and not in TCA cycle. 2  
 (e) Explain salvage pathway with example of any one reaction involved in it. 2
- Q5 (a) Give the reactions involved in conversion of isocitrate to succinate. 3  
 (b) Explain the  $\beta$ -oxidation of odd number carbon containing fatty acids. 3  
 (c) Discuss substrate-level phosphorylation. 2  
 (d) Outline the steps involved in conversion of acetyl CoA to mevalonate. 2  
 (e) What is the source of the precursor for PRPP? Give the reaction involved in synthesis of PRPP. 2
- Q6 (a) Outline the steps involved in synthesis of acetoacetate. 3  
 (b) Give the enzymes involved in glycogen breakdown with their roles. 3  
 (c) Describe the Cori cycle. 2  
 (d) Give the synthesis of CTP from UMP. 2  
 (e) Mention drugs modulating cholesterol synthesis. 2



Sem - II CBCS 10/12/19

[Time: 3 Hours]

[ Marks:80]

Please check whether you have got the right question paper.

- N.B: 1. All questions are compulsory.  
2. Illustrate your answers with sketches and structures wherever necessary.  
3. Answers to sub-questions must be written together.

- Q.1 a)** Justify all the statements with significant reasons or examples. 08
- i. Study of pharmacognosy helps in discovery of new pharmaceutical excipients.
  - ii. Nature of calcium oxalate crystals helps in detection of adulteration of crude drugs.
  - iii. Pneumatophores are examples of root modification
  - iv. Fehling test is positive for carbohydrates and Glycosides
  - v. Seasonal collection is an important parameter that affects the drug yield
  - vi. Wool gives alkaline lead acetate test positive.
  - vii. Rice bran oil has antioxidant properties
  - viii. Ricin present in castor seeds is a toxic phytoconstituent.
- Q.1 b)** Answer the following : 12
- i. Write a note on chemical classification of crude drugs.
  - ii. Discuss clearing agents with examples (any two )
  - iii. Differentiate between dehiscent and indehiscent fruits
  - iv. Differentiate between natural and prepared resins
  - v. Give merits and demerits of natural pest control agents
  - vi. Give source composition and application of bentonite.
- Q.2**
- i. Explain the role of pharmacognosy in unani and siddha system of medicine with examples. 04
  - ii. Explain the morphological and microscopical features of bark with suitable diagrams 04
  - iii. Write the source ,preparation ,constituents chemical tests and uses of ' Gum Arabic' 04
- Q.3**
- a) Differentiate between the following with examples 04
    - i. Rhizomes and tubers
    - ii. Umbel and capitulum type of Inflorescence.
  - b) Define, classify and give application and chemical test of Carbohydrates with suitable examples. 04
  - c) Discuss the pharmacognostic study of "Wool fat" 04
- Q.4**
- a) Write one example, important biological activity, general chemical test and structure of basic chemical nucleus for. 04
    - i. Pyridine alkaloids
    - ii. Isoquinoline alkaloid
  - b) Write in detail about factors influencing cultivation of medicinal plants. 04
  - c) Write a note on pepsin and thyroid hormones. 04
- Q.5**
- a) Discuss with examples anthraquinone and cyanogenetic glycosides. Give their basic structure and important biological activity. 04
  - b) Write source, chemical constituents and uses of punaranava and chirata. 04
  - c) Write a note on "hydnocarpus oil" and 'lard". 04

- Q.6 a) i) Explain dried latex and dried extract with examples 04  
ii) Write source ,chemical constituents and uses of Tinospora  
b) Discuss cellulosic fibers in detail with application. 04  
c) Write a note on abscisic acid and cytokinins as plant growth regulators. 04

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Sem - II CBCS 05/12/19

(3 Hours)

[Total Marks : 80]

Please check whether you have got the right question paper.

- N.B.: 1) All the questions are compulsory.  
2) Figures to the right indicate full marks.

- |           |   |  |   |
|-----------|---|--|---|
| Q1        | a | Define hospital. Classify hospitals on the basis of size.  | 2 |
|           | b | Comment on modern trends in dispensing to indoor patients.   | 2 |
|           | c | What is hospital formulary?  | 2 |
|           | d | What procedures are followed in hospitals for controlling infection                                      | 2 |
|           | e | Explain role of hospital pharmacist in safe use of medications.  | 2 |
|           | f | State importance of TPN and intravenous additives.   | 2 |
|           | g | Define sterilisation. List factors affecting growth of microorganisms.                                   | 2 |
|           | h | Define Entrepreneurship. Enlist basic traits to be possessed for a successful business entrepreneurship. | 2 |
|           | i | State specific functions of purchasing.  | 2 |
|           | j | List different insurance policies for drug store.  | 2 |
| Q2        | a | Explain role of pharmacist in dispensing of narcotics and other controlled substances in a hospital      | 4 |
|           | b | Write note on 'Importance of PTC in adverse drug reaction monitoring'                                    | 4 |
|           | c | Discuss the legal requirements to be satisfied for retail of drug store?                                 | 4 |
| Q3        | a | Comment on safe use of medications in hospitals.   | 2 |
|           | b | Write a short note on sterilization of catheters and utensils  | 4 |
|           | c | Explain the importance of window display and explain various methods of sales promotion                  | 4 |
|           | d | Explain VED method of inventory management system  | 2 |
| Q4        | a | Comment on the importance of hospital pharmacy budget and explain the components of budget.              | 2 |
|           | b | Write in detail about the preparation of hospital formulary.   | 4 |
|           | c | Name the channels of distribution for pharmaceuticals and explain any one in detail                      | 4 |
| <b>OR</b> |   |  |   |
|           |   | Explain the Hindu undivided family form of business organization.  | 4 |
|           | d | Explain the different types of insurance policies for retail drug store.                                 | 2 |
| Q5        | a | Explain 'Role of pharmacist in designing drugs distribution system for in patients'.                     | 2 |
|           | b | Give composition of PTC  | 2 |
|           | c | Enlist objectives of CSSR. Describe role of hospital pharmacist in functioning of CSSR                   | 4 |



- d Explain open to buy budget system and EOQ method of inventory control for the drug store. 4

OR

- Explain functions of purchasing for drug store. 4

- Q6 a Define Hospital pharmacy. Elaborate on different pharmaceutical services rendered to the patient. 4
- b Enlist important factors to be considered for sterilization of supplies using autoclave. 2

OR

- b Write note on 'Intravenous additives' 2
- c Compare direct and indirect channels of drug distribution to consumers. 2
- d Explain importance of computers in efficient running of drug store. 4



28/11/19 Sem - II CBES

Time: 3 Hours

Marks: 80

N.B:

- (1) All questions are compulsory
- (2) Draw diagrams wherever necessary
- (3) Figures to the right indicate full marks

Q.1	(i)	Give two reasons why environmental education is necessary	1
	(ii)	Define Lithosphere	1
	(iii)	Give two examples of "Recovery" as control measure	1
	(iv)	Explain: Biological Oxygen Demand	1
	(v)	Enlist two non-renewable sources with their limitations	1
	(vi)	Enlist two chemical pollutants responsible for Ozone layer depletion	1
	(vii)	What are effects of Acid rain	2
	(viii)	Give the causes of Bhopal Gas Tragedy	2
	(ix)	Explain the concept of Smog. Enlist two causes	2
	(x)	Explain Multidisciplinary nature of Environmental Studies	2
	(xi)	Explain secondary air pollutants with examples	2
	(xii)	Define: Carbon Credits	2
	(xiii)	Explain the term "Environmental Impact Assessment" and state its objectives	2
Q.2	(i)	What are the causes of Noise pollution. Give methods to reduce Noise pollution. What are Silent zones	4
	(ii)	Explain the functions and powers of Central Pollution Control Board.	4
	<b>OR</b>		
	(iii)	Discuss salient features of Environment Protection Act, 1986 Explain resource utilization as per Carrying Capacity	4
Q.3	(i)	Explain Geothermal energy generation or Hydropower generation with suitable diagram	4
	(ii)	Write a short note on Solid Waste Management with respect to composting, what are its merits and demerits	4
	(iii)	Discuss the entire procedure for obtaining Environmental Clearance	4
Q.4	(i)	What is indoor air pollution. Discuss the sources and effects of indoor air pollution	4
	(ii)	Explain any one case study with respect to environmental legislation	4
	(iii)	With the help of a neat labelled diagram explain use of scrubbers in control of Air Pollution	4

- Q.5 (i) Explain Global environmental crisis with respect to Land and Water 4  
(ii) Write a note on techniques of disaster management with reference to Tsunami 4
- OR**
- (iii) Describe Ecological Pyramids with examples 4  
Explain the need for Carbon Credits and the process of transfer of Carbon Credits to developing countries 4
- Q.6 (i) What are biogeochemical cycles. With a neat labelled sketch explain Carbon cycle or Oxygen cycle 4  
(ii) Explain "Global warming" causes, effects and preventive measures 4  
(iii) With the help of a neat labelled diagram explain the principle and working of Photovoltaic Cell as a source of greener energy 4

