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AIKTC/KRRC/SoP/ACKN/QUES/2017-18/

Date: 31/12/18School: SoP-CBCSBranch: SoPSEM: V

To,
Exam Controller,
AIKTC, New Panvel.

Dear Sir/Madam,

Reg.

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	Organic Chemistry III	BPH_C_501_T		✓	02
2	Pharmaceutics II	BPH_C_502_T		✓	02
3	Pharmaceutical Biotechnology	BPH_C_503_T		✓	02
4	Pharmacology II	BPH_C_504_T		✓	02
5	Biochemistry III (Elective)			✓	02
6	Cosmeticology			✓	02

Note: SC – Softcopy, HC - Hardcopy

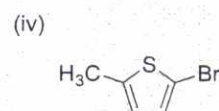
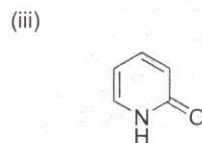
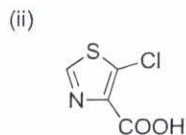
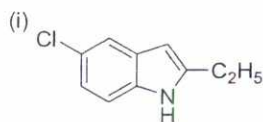
(Shaheen Ansari)
Librarian, AIKTC

Time: 3hrs

Marks: 80

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

Q.1. A. (i) Give IUPAC nomenclature of the following: (Any Three) (03)



(ii) Draw the structures for the following : (Any Two) (02)

- a) 3-Ethyl-5-methylquinoline b) 2-Methyl-5-bromofuran c) 4,5-Dihydro-imidazole-4-carboxylic acid

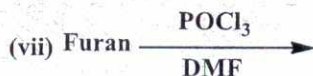
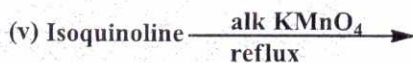
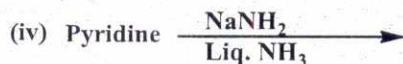
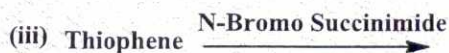
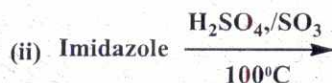
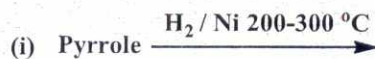
B. Answer the following in brief: (10)

- (i) Size exclusion chromatography of monodisperse fractions of a linear polymer A and B, yield molecular weights 4,00,000 and 8,00,000 respectively. Mixture is prepared from 3 parts by weight of A and 5 parts by weight of B. Determine weight average molecular weight.
(ii) During DNA synthesis, A, G and C requires protecting group while thymine does not. Justify.
(iii) Calculate the isoelectric point for Aspartic acid given that $pK_{a1} = 1.88$, $pK_{a2} = 3.65$, and $pK_{a3} = 9.60$. Write the structure of the zwitterion
(iv) Give the structure/s of reduction products of Pyridine.
(v) At which position does electrophilic aromatic substitution occur in pyrrole? Why?

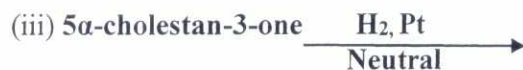
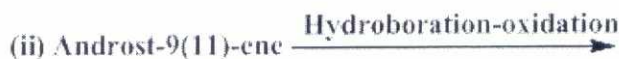
C. Answer the following:

- (i) Draw all resonating structures for thiophene (02)
(ii) Can imidazole be considered as amphoteric? Justify. (02)
(iii) Draw the structure of 5 α -androstan-3 β -ol (in chair conformation) (01)

Q.2. A. Give the products of the following reactions (Any Six) (06)



B. Complete the following reactions (03)



C. Illustrate the Edman degradation analysis for the peptide Gly-Phe-Glu-Lys (03)

Q.3. A. Write the following synthesis with mechanisms (Any Three) (06)

- (i) Doebner-Miller synthesis
- (ii) Robinson-Gabriel synthesis for oxazole
- (iii) Hantzsch Pyridine synthesis
- (iv) Knorr Pyrrole Synthesis

B. Write all steps required for synthesis of Leu-Ala dipeptide. (03)

C. Discuss polymerization reaction of propene using Ziegler Natta catalysis. (03)

Q.4. A. Give reasons for the following: (Any Three): (06)

- (i) 5 α -cholestane-3 α -ol is oxidized 3 times faster than 5 α -cholestane-3 β -ol.
- (ii) Nucleophilic substitution in pyridine takes place at 2 and 4 position.
- (iii) Furan undergoes Diels Alder reaction faster than thiophene.
- (iv) Cholesterol gives cis product upon oxidation with KMnO_4 while with H_2O_2 it gives trans product

B. Draw the general structures for androstane, pregnane and estrane backbone of steroids (03)

C. Briefly discuss the Merrifield solid phase synthesis of DNA (03)

Q.5. A. Answer the following questions: (03)

- (i) Pyrimidine (pKa: 1.30) is much less basic than pyridine (pKa: 5.2). Justify.
- (ii) Write method of synthesis of piperazine from oxirane
- (iii) Draw resonating structures for Indole.

B. Attempt the following conversions (Any Five) (05)

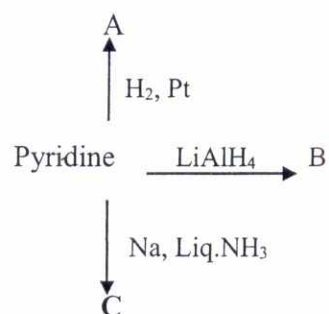
- (i) Furan to furfural
- (ii) Pyridine to 4-nitropyridine
- (iii) Indole to 3-Formylindole
- (iv) Thiazole to thiazole-5-sulphonic acid
- (v) Thiophene to Thiophene-2-carboxylic acid
- (vi) Acrolein to quinoline

C. Classify polymers on the basis of their physical properties giving one example from each class. Discuss any one in detail (04)

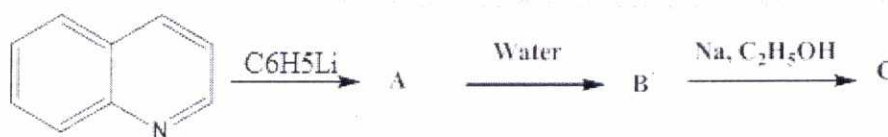
Q.6. A. Identify and write the structures of A, B and C in the following reactions

(06)

(i)



(ii)



B. 5-Cholestene (A) when treated with peracetic acid gives product B, which on treatment with water to give product C. Give the structures of A, B and C with proper stereochemistry. (03)

C. What are co-polymers? Explain different types of co-polymers. (03)

11/12/2018

Gmail - Correction in QP Code: 57188



IMRAN SHEIKH <imranaikt@gmail.com>

Correction in QP Code: 57188

1 message

Mon, Nov 12, 2018 at 12:02 PM

University of Mumbai <support@muapps.in>
Reply-To: University of Mumbai <support@muapps.in>
To: imranaikt@gmail.com



University of Mumbai

Correction in 1P00135 - T.Y.B.Pharm (Sem-V) (Choice Based) / 66101 - Organic Chemistry- III QP Code: 57188

Q1) B)iv) Give the structure/s of **reduction products** of pyridine
CORRECTION is as follows:
iv) Give the structure/s of **oxidation product** of pyridine

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SEM-V CBCS

[Time: Three Hours]

[Marks:80]

Please check whether you have got the right question paper.

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

- Q.1 a) Define Disperse systems and state advantages and disadvantages of disperse systems. 03
b) Explain significance of particle size determination in suspensions. 02
c) Enlist factors affecting skin penetration. 02
d) Name formulation additives in semisolids. Explain any one in detail. 03
e) Define suppositories. Give advantages of suppositories. 02
f) Discuss the desirable features of aerosols. 03
g) Discuss propellants as components of aerosol system. 03
h) Classify cosmetics. Give two examples of cosmetics used for skin. 02
- Q.2 a) Discuss the various methods of preparation of suspensions. 04
OR 04
Discuss DLVO theory with a suitable diagram. 04
b) Discuss large scale manufacturing of creams. 04
c) Elaborate on quality control tests for Aerosols. 04
- Q.3 a) Elaborate on quality control of emulsions. 04
OR 04
Discuss the formulation of any one official preparation of emulsion. 03
b) Define and classify in detail Penetration enhancers. 03
c) Discuss salient features of Cocoa butter as a suppository base. 02
d) Elaborate on use of perfumes in Cosmetic preparations. 02
- Q.4 a) Distinguish between Flocculated and Deflocculated suspensions. 03
b) Elaborate on physical stability of emulsions. 04
c) Write a short note on Pastes. 02
d) Discuss the microbiological considerations while formulating cosmetics. 03
- Q.5 a) Discuss any two methods of emulsifier selection. 03
b) Describe large scale manufacturing of ointments. 03
c) Elaborate on any one methods of manufacturing aerosols. 03
OR 03
Discuss various components of an aerosol system. 03
d) Write a note on different labelling criteria for cosmetics. 03
- Q.6 a) Discuss Ostwald ripening and crystal factor considerations for suspension stability. 03
b) Describe large scale manufacturing of suppositories. 04
c) Elaborate on any one formulation systems for aerosols. 03
d) Enlist stability testing parameters of cosmetics. 02
OR 02
Enlist different raw materials used in hair cosmetic formulations with suitable examples. 02

16/11/2018

sem-V CBSC

(3 Hours)

Marks : 80

- NB : (1) All questions are **Compulsory**.
 (2) Draw neat labelled diagrams wherever necessary

- | | | |
|---|---|---|
| 1 | Answer the followings | 2 |
| a | Enlist the various applied branches of Biotechnology | 2 |
| b | Comments on hazards due to deliberate release of GMO's | 2 |
| c | Define rDNA technology, write its applications in Pharmaceuticals | 2 |
| d | Enlist the advantages of microbial biotransformation | 2 |
| e | Add a short note on Fever as first line body defense | 2 |
| f | Explain the following terms in relation with host microbes relationship | 2 |
| | i. Parasitism ii. Commensalism | |
| g | Define fermentation, write disadvantages of batch fermentation | 2 |
| h | Define sera, name the organism used in production of BCG vaccine | 2 |
| i | Draw a neat labelled diagram of Typical Fermenter | 2 |
| j | Write in brief RFLP | 2 |
| 2 | a What is gene therapy, explain its approaches and methods | 4 |
| | b Enlist various Serological tests, Comment on ELISA | 4 |
| | c Explain Sangar's dideoxynucleotide method of DNA sequencing | 4 |
| 3 | a Write a short note on Fermentation media | 4 |
| | b Explain in brief Downstream Processing | 4 |
| | c Discuss production of Penicillin by Fermentation technology | 4 |
| | OR | |
| | c Discuss production of Dextran by Fermentation technology | 4 |
| 4 | a Give the classification of Immunological products, Differentiate between Salk and Sabin polio vaccines. | 4 |
| | b Explain the process of Phagocytosis and add a note on Infection. | 4 |
| | c Define Monoclonal Antibodies, Discuss the process for production of the same | 4 |
| | OR | |
| | c Explain in detail Clonal selection Theory | 4 |
| 5 | a Explain the process of Insulin production by rDNA technology | 4 |
| | b Enlist the enzyme used in rDNA technology and explain any two | 4 |
| | c What are blotting techniques, Enlist its types and explain any one with a neat labelled diagram. | 4 |
| | OR | |
| | c Explain the process of In-vitro amplification of DNA with its applications. | 4 |
| 6 | a Enlist the methods of Enzyme immobilization and Explain covalent bonding with example. | 4 |
| | b What is cell culture? Give the applications of animal cell culture in Pharmaceuticals. | 4 |
| | c Define Biosensor, explain Enzyme electrode for Determination of Glucose. | 4 |
| | OR | |
| | c Write a note on Bioinformatics and its applications in Pharmaceuticals. | 4 |

SEM-V CBCS
19/11/2018

(3 Hours)

Total Marks: 80

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

1. (a) Answer the following: - 12
i) Give the action of insulin on Liver.
ii) State the adverse effects of penicillin.
iii) Give the applications of immunosuppressants.
iv) State the mechanism of action of sulphonylureas.
v) Enlist one example of synergistic antimicrobial combination and state its advantages.
vi) Explain the therapeutic applications of folic acid.
1. (b). Justify the following statements 8
i) Vitamin D is used in conjunction with calcium supplements.
ii) Chloramphenicol and Erythromycin show partial cross resistance.
iii) Urokinase is preferred over streptokinase.
iv) Synthetic estrogens have replaced natural estrogens.
2. (a) Answer **any two** of the following: - 8
(i) Classify antiviral drugs. Give the pharmacology of zidovudine.
(ii) Enlist polyene antibiotics. Write a note on Amphotericin B.
(iii) Write a note on first line therapy used in tuberculosis.
2. (b) Attempt **any one** of the following: - 4
(i) Write in detail about adverse effects and clinical indications of aminoglycosides.
(ii) Classify amoebicidal agents. Add a note on Tinidazole.
3. (a) Answer **any two** of the following: - 8
(i) Classify anti-thyroid drugs. Add a note on the adverse effects and uses of carbimazole.
(ii) Compare and contrast oxytocin and ergot alkaloids.
(iii) Classify anti-diabetic drugs. Write a note on various insulin preparations and their salient features.
- (b) Write a short note on **any one** of the following: - 4
(i) Actions and adverse effects of glucocorticoids
(ii) Enlist the methods of oral contraception. Compare the effect of combined pill with phased regimen.
4. (a) Answer **any two** of the following: - 8
(i) Discuss the biological role of Vitamin B12 and its clinical uses.
(ii) Discuss the pharmacology of heparin.
(iii) Give biological action and clinical uses of Vitamin K.

- (b) Attempt **any one** of the following: - 4
- (i) Discuss the pharmacology of Clopidogrel.
 - (ii) Describe the mechanism of action of fibrinolytics? Give their clinical indications.
5. (a) Answer **any two** of the following: - 8
- (i) Classify antimetabolites used as anticancer agents. Discuss the pharmacology of Methotrexate.
 - (ii) Classify cephalosporins. Discuss the pharmacokinetics and clinical indications of Cefotaxime.
 - (iii) Classify antimalarial drugs. Discuss the pharmacology of chloroquine.
- (b) Write a short note on **any one** of the following: - 4
- (i) Adverse effects and therapeutic use of sulphonamides
 - (ii) Ciprofloxacin.
6. (a) Answer **any two** of the following: - 8
- (i) Classify immunosuppressant. Discuss the pharmacology of cyclosporine.
 - (ii) What are immunomodulators? Write a note on Interferons.
 - (iii) Which is the active form of vitamin D? Discuss its pharmacological action.
- (b) Write a short note on **any one** of the following: - 4
- (i) Triazole antifungals.
 - (ii) Dapsone.
-

SEM-V CBCS

Elective

28/11/2018

Time: 2 hrs

N.B.: All Questions are compulsory.

Total Marks: 40

- Q1.** (a) Name two purine bases present in DNA. (01)
(b) Name two drugs which inhibit telomerase. (01)
(c) Explain the terms intron and exon. (01)
(d) Eukaryotic pre-mRNA transcription begins in the presence of enzyme _____. (01)
(e) Explain how puromycin and tetracyclines inhibit protein synthesis. (02)
(f) Explain bidirectional replication of circular DNA molecule (02)
- Q2.** (a) Explain elongation and termination step in eukaryotic transcription. (03)
OR
(a) Give details of promoter regions for initiation of prokaryotic transcription. (03)
(b) Write note on gene activators and silencers. (03)
(c) Explain mismatch process for DNA repair. (02)
- Q3.** (a) Differentiate prokaryotic and eukaryotic DNA replication (03)
(b) Describe Initiation stage of protein synthesis in bacterial cells. (03)
(c) Write note on satellite DNA (02)
OR
(c) Explain genome complexity. (02)
- Q4.** (a) Write note on DNA polymorphism and SNPs. (03)
(b) Explain post-transcriptional modifications. (03)
OR
(b) Explain Merrifield peptide synthesis (03)
(c) Define mutation and classify types of mutation (02)
- Q5.** (a) Explain Holliday model of recombination transformation (02)
(b) Explain semi-conservative mode of DNA replication (02)
(c) Compare biosynthesis and chemical synthesis of protein (02)
(d) Write a note on Photo **OR** SOS repair process for DNA repair (02)

SEM-V CBES
03/12/18

[2 Hours]

[Total Marks : 40]

Please check whether you have got the right question paper.

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

- Q.1 Answer the following: (10)
- a) Define cosmetics. Classify cosmetics based on intended use.
 - b) Discuss formulation of baby powder.
 - c) Give the composition of cuticle removers.
 - d) Justify the use of two different classes of colours used in lipsticks.
 - e) Enlist ideal properties of shampoos.
 - f) State the different types of bath products
- Q.2 Answer **any two** (6)
- a) Give an account of cleansing preparations.
 - b) Elaborate on antioxidants used in cosmetics.
 - c) Justify the use of combination of solvents in nail lacquers.
- Q.3 Answer **any two** (6)
- a) Enlist eye makeup products. Describe any one.
 - b) Give examples of suncreening agents. Explain any two evaluation tests for sunscreens.
 - c) What are hair conditioners? What are the different substances that can be used as hair conditioners?
- Q.4 Answer **any two** (6)
- a) Write on large scale manufacturing of Compact face powder.
 - b) Discuss quality control tests done on shaving products.
 - c) Enlist types of dentifrices and elaborate on any one type.
- Q.5 a) Explain the methods used in sensorial evaluation of cosmetics. (3)
- b) Write 2 in-vitro tests for skin irritation. Discuss sensitivity testing of cosmetic products done on human voluteers. (3)
- Q.6 a) Enlist various methods of purification of water. Write a note on any one method. (2)
- b) What are the key parameters of senses to be considered for sensorial evaluation. (2)
- c) Enlist different methods of hair removal. (2)

12/3/2018

Gmail - Correction : 1P00135 - T.Y. B. of Pharmacy (Sem V)(Choice Based) / 66109 - Cosmeticology QP code : 59111.



IMRAN SHEIKH <imranaiktc@gmail.com>

**Correction : 1P00135 - T.Y. B. of Pharmacy (Sem V)(Choice Based) / 66109 -
Cosmeticology QP code : 59111.**

1 message

University of Mumbai <support@muapps.in>
Reply-To: University of Mumbai <support@muapps.in>
To: imranaiktc@gmail.com

Mon, Dec 3, 2018 at 10:44 AM



University of Mumbai

Correction : 1P00135 - T.Y. B. of Pharmacy (Sem V)(Choice Based) / 66109 - Cosmeticology QP code : 59111. Q.1
Please read as Answer the following: **(Any five)**

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