**ANJUMAN-I-ISLAM'S**
# AKTC KALSEKAR TECHNICAL CAMPUS
**INNOVATIVE TEACHING · EXUBERANT LEARNING**

## Knowledge Resource & Relay Centre (KRRC)

AIKTC/KRRC/SoP/ACKN/QUES/2013-14/ 73       Date: 13/06/2014

School: __SoP-REV.__       Branch: ___SoP___       SEM: ___IV___

To,
**Exam Controller,**
**AIKTC, New Panvel.**

Dear Sir/Madam,

(ATKT) (ATKT)

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

| Sr. No. | Subject Name | Subject Code | Format SC | HC | No. of Copies |
|---------|--------------|--------------|-----------|-----|---------------|
| 1 | Pharmacology – I | | | ✓ | 02 |
| 2 | Organic Chemistry – IV | | | ✓ | 02 |
| 3 | Biochemistry – II | | | ✓ | |
| 4 | Dispensing pharmacy | | | ✓ | 02 |
| 5 | Mathematics – II | | | ✓ | 02 |
| 6 | Psychology & Sociology | | | | |
| 7 | APP - IV | | | | |
| | | | | | |

**Note: SC – Softcopy, HC - Hardcopy**

(Shaheen Ansari)
**Librarian, AIKTC**

**N.B. :** (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions out of remaining **six** questions.
(3) **All** sub-questions for a given question should be **grouped** and written **together**.

1. Give the structure of the products for the following reactions (any **eight**) :—          8

    (a) Pyrazole $\xrightarrow[\text{Dioxane}]{\text{Br}_2}$

    (b) Imidazole $\xrightarrow{\text{Me I}}$

    (c) Propene $\xrightarrow[\text{H}_2\text{O}_2]{\text{HBr}}$

    (d) Diphenyl Carbonate + bisphenol $\xrightarrow{300°C}$

    (e) $HC \equiv C\ mgBr$ + Acetone $\xrightarrow[\text{H}_3\text{O}^+,\ \text{NH}_4\text{Cl}]{\text{Et}_2\text{O}}$

    (f)  $\xrightarrow[\text{H}^+]{\text{Me}_2\text{Culi}}$

    (g) furan $\xrightarrow[\text{H}_2\text{O}]{\text{HCl}}$

    (h) $H_2C \doteq CHCl + H_2C = CCl_2 \longrightarrow$

    (i) Quinoline $\xrightarrow[\text{ether}]{\text{C}_6\text{H}_5\text{li}}$
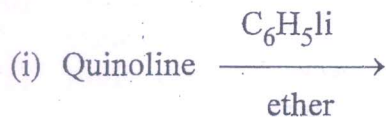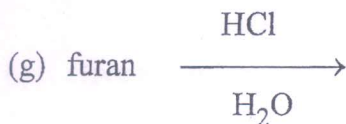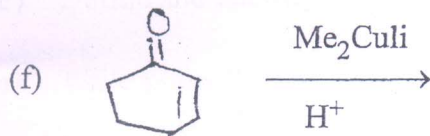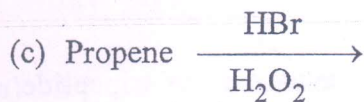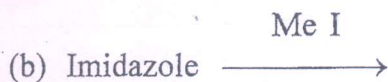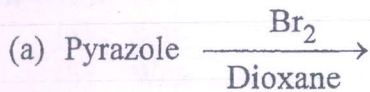
2. (a) Write the detailed mechanism of the following name reactions (any **three**) :—          6
    (i) Fisher Indole Synthesis
    (ii) Knorr-Pyrrole Synthesis
    (iii) Radiszewski Synthesis
    (iv) Friedlander Quinoline Synthesis.

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  (b)  Draw resonating structures for any **two** of the following :—
- (i)  Isoxazole
- (ii)  Thiazole
- (iii)  Pyridine

3.  (a)  Attempt the following conversion (any **three**) :—      6
- (i)  Aniline to Bromobenzene
- (ii)  Napthalene to 1, 2–dihydronapthalene
- (iii)  Ethyl Carbonate to t–butyl alcohol
- (iv)  3–methyl pyridine to 3–Amino Pyridine.

  (b)  Write a note on amino acid protecting agents.      2

4.  (a)  Write a note on merrifield solid phase technique for synthesis of tripeptide    4
leu–val Ala.

  (b)  Give reasons :—      4
- (i)  Electrophilic substitution of Pyrrole occurs at $2^{nd}$ Positions.
- (ii)  Thiopnene is more aromatic than pyrrole and furan.
- (iii)  Isoquinoline is a bicyclic heterocyclic compound
- (iv)  Pyrrole is less basic than pyridine.

5. (a)  Complete the following reaction      2

$$\text{Ethylacetate} + CH_3mgBr \xrightarrow{\text{Dry ether}} A \xrightarrow{H_3O+} B$$

$$B + CH_3mgBr \xrightarrow{\text{dry ether}} C \xrightarrow{H_3O^+} D.$$

  (b)  Write as short note on birch reduction including mechanism.      3
  (c)  What is ziegler–Natta Catalyst and its significance.      3

6. (a)  Give one method for the synthesis of the following (any **six**) :—    6
- (i)  Polystyrene        (v)  2–methylbutane
- (ii)  Nicotinic acid        (vi)  2, 5–dimethyl thiophene
- (iii)  Furfural        (vii)  Propyl bromide
- (iv)  3–Chloro Pyridine        (viii)  4–hydroty butene

  (b)  Discuss the formation, structure and stability of triphenylmethyl radical.    2

7. (a)  Write the mechanism by giving suitable example for Hunsdiecker reaction.    3
  (b)  Discuss the different methods used for synthesis of polymers with suitable example.    4
  (c)  What is Bakelite.      1

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(2 Hours)

[ Total Marks : 40

**N.B.** (1) Questions No. **1** is **compulsory**.
  (2) Attempt any **three** out of the remaining **four** questions.
  (3) **Figures** to the **right** indicate **full** marks.

1. Answer in brief :—      10
   (a) State factors that impart a Pearlescent texture to vanishing creams.
   (b) What are the ideal properties of face powders ?
   (c) Give the mechanism of action of Deodorants.
   (d) Write a note on Depilatory formulaions.
   (e) Enlist various classes of colors used in cosmetics alongwith examples.

2. (a) Discuss raw materials used in the formulation of Shampoos.    4
   (b) Elaborate on the evaluation of Lipsticks.    4
   (c) Differentiate between Vanishing Cream and Cold Cream.    2

3. (a) Explain large scale manufacturing of Toothpastes    4
   (b) Write a note on Hair Colorants.    4
   (c) Define and classify Cosmetics.    2

4. (a) Write notes on (any **two**) : —    8
       (i) Microbial aspects of cosmetics
       (ii) Herbal Cosmetics
       (iii) Sensitization reactions and sensitivity testing of cosmetics.
   (b) Give a brief account of Lather Shaving Cream.    2

5. (a) What are the manufacturing requirements for nail lacquer as per Drug and    2
       Cosmetics Act ?
   (b) Elaborate on the ill effects of sunrays and cosmetics used in protection of the    4
       same.
   (c) Enlist various eye make products and elaborate on eyeliner.    4

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Con. 2730-14.

### (REVISED COURSE–2007 SYLLABUS)

(2 Hours)                [Total Marks : 40

**N.B. :**   (1)   Question No. **1** is **compulsory**.
          (2)   Attempt any **four** Questions from the **remaining**.
          (3)   Use of **non scientific calculator** is **allowed**.
          (4)   **Figures** to the **right** indicate **full** marks.

1.   (a)   Calcualte Arithmatic mean for the following data.          4

| Marks obtained | 10–20 | 20–30 | –40 | 40–50 | 50–60 | 60–70 | 70–80 |
|---|---|---|---|---|---|---|---|
| No. of Students | 2 | 3 | 8 | 14 | 8 | 3 | 2 |

**OR**

   (a)   The mean of marks scored by 300 students in the subject of statistics is 45.   4
        The mean of top 100 of them was foudn to be 70 and the mean of last 100
        was known to be 20. What is the eman of the remaiining 100 studnets ?

   (b)   Fit a straight line to the following data.          4

| x | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| y | 25 | 28 | 33 | 39 | 46 |

**OR**

   (b)   The two regression lines are :          4
         $4x - y = 35$     find $\bar{x}, \bar{y}$ and
         $3x - 2y = 20$    correlation coefficient 'r'.

2.   (a)   Two cards are drawn from a pack of well shuffled cards. Find the probability that :   4
         (i)   at least one is a face card.
         (ii)   both are of same colour.

   (b)   Find Karl Pearsons coefficient of skewness from the following data.     4

| Wages (in Rs.) | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
|---|---|---|---|---|---|
| No. of workers | 15 | 20 | 30 | 25 | 10 |

3.   (a)   Heights of soldiers follow normal distribution with mean 68.22 inches and variance   4
        10.8 inches. Find the expected number of soldiers in a regiment of 1000 whose
        height is more than 72 inches.
        (Given area from z = 0 to z = 1.15 is 0.3749)

   (b)   Fit a Poisson Distribution to the following data.          4

| x | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| f | 123 | 59 | 14 | 3 | 1 |

[TURN OVER

4. (a) If the probability of a defective bulb is 0.1 , find the mean and standard deviation   4
   of the 4 defective bulbs in a total of 900.

   (b) Compute the Rank correlation coefficient from the given data.

| Rank of X | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-----------|---|---|---|---|---|---|---|---|---|----|
| Rank of Y | 3 | 4 | 1 | 5 | 2 | 7 | 6 | 8 | 10 | 9 |

5. (a) A random sample of 400 male students is found to have a mean height 67.47   4
   inches and 4 standard deviation is 1.8 inches. Can the sample be regarded as
   drawn from a population with mean height 68 inches ?

   (b)   4

|  | Educated father | Un Educated father |  |
|---|---|---|---|
| Intelligent | 40 | 35 | 75 |
| Not Intelligent | 40 | 85 | 125 |
|  | 80 | 120 | 200 |

   Do these figures supports the hypothesis that educated fathers have intelligent
   Sons at 5% LOS. ?

6. (a) The correlation coefficient between the variables X and Y is $r = 0.6$. If $\sigma_x = 1.5$,   4
   $\sigma_y = 2$ , $\overline{X} = 10$ , $\overline{Y} = 20$ then find the Equation of Line of Regression.

   (b) Out of 1000 famlies with 4 children each, how many would you expect to have   4
       (1) At least one boy     (2) no girl.

7. (a) The first four moments of the distribution about the value 4 are $-1.5, 17, -30$   4
   and 108. Calculate the moments about the mean.

   (b) Find E(X) and V (X) for the following probability distribution.   4

| X | 2 | 4 | 6 | 8 | 10 |
|---|---|---|---|---|----|
| frequency | 1/8 | 1/4 | 3/16 | 1/4 | 3/16 |

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*Pharmacology - I*

Sem IV

2013-14

QP Code : **BM-10174**
05-05-2014

(2 Hours)

[ Total Marks : 40

N. B. : (1) Question No. 1 is **compulsory**.
(2) Attempt any **four** questions from **Q. Nos. 2 to 6**.
(3) **Figures** to the **right** indicate **full** marks.

1. Explain the following (attempt any **four**) :—    8
   (a) Define Bioavailability and Bio-equivalence of drugs.
   (b) Enlist therapeutic uses of anticoagulant drugs.
   (c) Explain mechanism of action of sucralfate.
   (d) Comment on Physiological antagonism with suitable example.
   (e) What is the physiological role of Blood brain barrier in drug distribution.
   (f) Classify purgatives with examples.

2. (a) Discuss the mechanism of action and therapeutic uses of Vitamin K.    4
   (b) State various types of drug receptors. Discuss in detial drug-receptor interaction.    4

3. Discuss the pharmacotherapy of Peptic Ulcers.    8

4. (a) Exlain role of antispasmodics in management of various GI disoders.    4
   (b) Explain Aspirin as thrombolytic.    4

5. Explain how fibrinolytics differ from anticoagulants and discuss various therapeutic    8
   uses of fibrinolytics and anticoagulants.

6. Write short notes on (any **two**) :—    8
   (a) Drug Distribution
   (b) Antiemetics
   (c) Oral Rehydration therapy in Diarrhoea.
   (d) Enzyme Linked Receptors.

**Con. 9643-14.**