To,
Exam Controller,
AIKTC, New Panvel.

Dear Sir/Madam,

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

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Subject Name</th>
<th>Subject Code</th>
<th>Format</th>
<th>No. of Copies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Organic Chem.-II</td>
<td></td>
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<td>01</td>
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<tr>
<td>2</td>
<td>Pharm. Analysis-I</td>
<td></td>
<td>✔</td>
<td>01</td>
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<td>3</td>
<td>Pharmaceutics-II</td>
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<td>✔</td>
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<td>4</td>
<td>Microbiology</td>
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<td>01</td>
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<tr>
<td>5</td>
<td>Pharmacology-I</td>
<td></td>
<td>✔</td>
<td>01</td>
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<tr>
<td>6</td>
<td>Math. &amp; Statistics</td>
<td></td>
<td>✔</td>
<td>01</td>
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Note: SC – Softcopy, HC - Hardcopy

(Shaheen Ansari)
Librarian, AIKTC
Q.1 Methods of preparation of alcohols

Q.2 Explain Transesterification

Q.3. Write any two methods of preparation of amines?

Q.4. Predict the product?

\[ \text{RCOCI} + \text{NH}_2\text{OH} \rightarrow \text{A} + \text{B} \]

Q.5 Convert the following

\[ R^\text{II} - \text{C} - \text{Cl} + \text{NH}_2\text{OH} \]

Q.6. Write a note on Schmidt rearrangement
Q.1 Explain the following terms
A) i) Solubility Product  ii) Absolute Errors

Balance and complete the reaction:-
B) i) \( I^- + S_2O_3^{2-} \rightarrow S_4O_6^{2-} + I^- \)  ii) \( MnO_4^- + H^+ \rightarrow MnO_2 + H_2O \)

Q.2 What is Pharmacopelal Monograph? Identify The Type of Titration, Indicator employed (if any), Dose and mention Pharmacopelal Factor for the same. (ANY TWO)
   a) Aspirin b) Hydrogen Peroxide c) Soluble Aspirin Tablet

Q.3 Explain theories of Neutralisation Indicators

Q.4 Write Short notes on:- (ANY TWO)
   a) Cerrimetry and Permagnometry
   b) Neutralization Curve for HCl and NaOH titration
   c) Primary Standard and Secondary Standard
   d) Ways to Minimize Errors
Q1. Differentiate between Floculated and Defloculated suspension.  
Q2. Explain (any one) 
   a) DLVO theory 
   b) Schulze Hardy rule 
Q3. Enlist theories of stability of emulsion and elaborate any one.  
Q4. Describe HLB system and give its importance.  
Q5. Elaborate on precipitation method for preparation of suspension.  
Q6. Give an account on additives used in emulsion.  
Q7. Justify the statements 
   a) Electrolyte play important role in formulation of suspension  
   b) Creaming is reversible and breaking is irreversible.
Q1. Answer any two

A. Distinguish between ANY ONE of the followings
   1. Prokaryotes and eucaryotes
   2. Fungi and bacteria

B. Match the followings
   a. Photoheterotrophs  i. Chemical substances as a source of energy &
                          carbon dioxide as a source of carbon
   b. Chemoautotrophs    ii. Chemical substances as a source of energy
                          organic compounds as a source of carbon
                          iii. Radiant heat as a source of energy & organic
                               compound as a source of carbon

Q2. Answer ANY TWO

A. Explain in detail bacterial growth phase
B. Write a short note on cultivation of anaerobic bacteria
C. Explain the principle of gram staining

Q3 Write a short note on ANY ONE

A. Define selective and differential media with example.
B. Elaborate on types of bacterial reproduction
Q-1: Match the following.

**Receptors**
A. G-Protein coupled  
B. Enzyme linked  
C. Ligand gated  
D. Intracellular

**Signaling mechanism**
- i. Activation of transcription factor
- ii. Activation of ion channels
- iii. Activation of tyrosine kinase
- iv. Activation of adenyl cyclase

Q-3: Comment on the following statements (ANY FOUR)  

a) Warfarin shows variable response in patients.  
b) Glucocorticoid is administered as a single early morning dose.  
c) Gentamycin causes serious 8th cranial nerve damage in patients with renal impairment.  
d) Diuretic causes severe water and electrolyte depletion.  
e) Primaquin may cause hemolytic anemia in usual dose.

Q.1: Attempt following questions (ANY THREE)  

A. Compare the Intravenous and sub lingual route of drug administration  
B. Discuss the mechanisms involved in absorption of drugs.  
C. Define the following terms.  
   i. Spare receptors  
   ii. Inverse agonist  
   iii. Potency  
D. Describe the different types of drug antagonism.
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KALSEKAR TECHNICAL CAMPUS, NEW PANVEL
School of Pharmacy

PERIODICAL THEORY EXAMINATION

Sem - IV
Date: 05/03/2016
Marks: 15

Q: 1) Attempt any three.

1) Find mean by step deviation method.

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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No of workers</td>
<td>6</td>
<td>16</td>
<td>24</td>
<td>20</td>
<td>10</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

2) Find median for following data.

<table>
<thead>
<tr>
<th>x_i</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>f_i</td>
<td>7</td>
<td>6</td>
<td>10</td>
<td>8</td>
<td>11</td>
<td>4</td>
</tr>
</tbody>
</table>

3) Find mode of the following distribution.

<table>
<thead>
<tr>
<th>Age in years</th>
<th>0-9</th>
<th>10-19</th>
<th>20-29</th>
<th>30-39</th>
<th>40-49</th>
<th>50-59</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of persons</td>
<td>12</td>
<td>15</td>
<td>30</td>
<td>23</td>
<td>15</td>
<td>5</td>
</tr>
</tbody>
</table>

4) Find Karl Pearson coeff of skewness from given data.

<table>
<thead>
<tr>
<th>x_i</th>
<th>3.5</th>
<th>4.5</th>
<th>5.5</th>
<th>6.5</th>
<th>7.5</th>
<th>8.5</th>
<th>9.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>f_i</td>
<td>3</td>
<td>7</td>
<td>22</td>
<td>60</td>
<td>85</td>
<td>32</td>
<td>8</td>
</tr>
</tbody>
</table>

Q: 2) Attempt any two.

6 marks

1) Compute Quartile Deviation (Q.D) & coeff of Q. D.

<table>
<thead>
<tr>
<th>Daily wages in Rs</th>
<th>Below 35</th>
<th>35-40</th>
<th>40-45</th>
<th>45-50</th>
<th>50-55</th>
<th>55-60</th>
<th>60-65</th>
<th>65 above</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of workers</td>
<td>12</td>
<td>18</td>
<td>22</td>
<td>26</td>
<td>36</td>
<td>23</td>
<td>19</td>
<td>8</td>
</tr>
</tbody>
</table>

2) Find Mean deviation from mode.

<table>
<thead>
<tr>
<th>X</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>21</td>
<td>12</td>
<td>13</td>
</tr>
</tbody>
</table>

3) Calculate Standard Deviation(S.D)& coeff of Variation for

12, 6, 7, 3, 15, 10, 18, 5, 13, 11