

SINHGAD-I  
PALGAD/ AMAZON/PARANA/KARNAFULI/SURAMA/SIYANA-I (CBCS) WINTER - 2015  
SUBJECT : RESEARCH METHODOLOGY AND BIOSCREENING

Day : Wednesday  
Date : 06-01-2016

Time : 10:00 AM TO 1:00 P.M.  
Max. Marks : 60.

**N.B.:**

- 1) Answer any **THREE** questions from Section-I and any **THREE** questions from Section-II.
- 2) Answer to the two sections should be written in **SEPARATE** answer books.
- 3) The use of non-programmable electronic pocket calculator is **ALLOWED**.
- 4) Figures to the **RIGHT** indicate full marks.

**SECTION-I**

- Q.1** What is the meaning of research? Elaborate the purpose and objectives of research. (10)
- Q.2** Give the importance of literature survey in research. Enlist various sources of information in research. (10)
- Q.3** Write various components of research paper. (10)
- Q.4** Write short notes on any **TWO** of the following: (10)
- a) Plagiarism
  - b) Quality by design
  - c) Components of questionnaire.

**SECTION-II**

- Q.5** What is the importance of LD<sub>50</sub> and ED<sub>50</sub> to toxicity and effectiveness of drugs? Elaborate. (10)
- Q.6** Describe bioscreening of antidepressant drugs. (10)
- Q.7** An achievement test in spelling was administered to two randomly selected students from two schools. Test the null hypothesis that there was no significant difference in achievement between the two populations from which the samples were selected at the 0.05 level of significance. Use the method of separate variances. (10)

School A	School B
N = 40	N = 45
$\bar{X} = 82$	$\bar{X} = 86$
S = 12.60	S = 14.15

- Q.8** Write short notes on any **TWO** of the following: (10)
- a) Dealing with radioactive materials
  - b) Importance of CPCSEA
  - c) Types of errors.

AMAZON/PARANA/KARNAFULI/SIYANA/SURAMA/SINHAGAD/PALGAD-I  
(CBCS) (2012 COURSE): SUMMER 2016  
SUBJECT: ADVANCED PHARMACEUTICAL ANALYSIS

Day: Friday  
Date: 01-07-2016

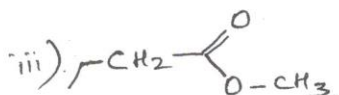
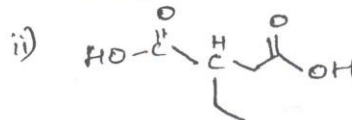
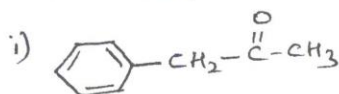
Time: 10:00 AM TO 1:00 PM  
Max. Marks: 60

**N.B.:**

- 1) Attempt any **THREE** questions from Section-I & Section-II each.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both sections should be written in **SEPARATE** answer book.

**SECTION-I**

**Q.1** Write the multiplicities and chemical shifts for the following structures (10)



**Q.2** Write the mass spectrometric fragmentation pattern for esters and aldehydes (10)

**Q.3** Write the instrumentation involved in HPTLC (10)

**Q.4** Write notes on: (Any Two only)

- a) Column efficiency (05)
- b) LC-MS-MS (05)

**SECTION-II**

**Q.5** Discuss in detail supercritical fluid chromatography (10)

**Q.6** Write detailed note on (10)

- a) Types of ELISA techniques and their comparison
- b) Various aspects of chiral chromatography techniques

**Q.7** Describe theory, instrumentation and applications of thermogravimetric analysis (10)

**Q.8** Write note on:

- a) Differential scanning calorimetry (05)
- b) XRD (05)