

**Pre. Ph.D. Course Work (2017 Course ) : (Common for All  
Pharmaceutical Science Faculty) : SUMMER - 2019**  
**SUBJECT: PAPER-I RESEARCH METHODOLOGY/ PHARMACEUTICS/  
PHARMACEUTICAL CHEMISTRY/ PHARMACOLOGY/ PHARMACOGNOSY/  
QUALITY ASSURANCE TECHNIQUES**

Day: Monday  
Date: 22/04/2019

**S-2019-5312**

Time: 10.00 AM TO 1.00 PM  
Max. Marks: 100

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**N.B.:**

- 1) Attempt **ANY FIVE** questions from each Section.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Answers to both the sections should be written in **SEPARATE** answer book.
  - 4) Draw neat and labeled diagrams **WHEREVER** necessary.
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**SECTION-I**

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|------------|--|-------------|
| <b>Q.1</b> | Write in details on objectives of research.  | <b>(10)</b> |
| <b>Q.2</b> | Describe important features of basic and applied research.   | <b>(10)</b> |
| <b>Q.3</b> | What do you understand by "Literature survey"? Discuss importance of library is research.                                | <b>(10)</b> |
| <b>Q.4</b> | What are 'on line' sources of published literature? Discuss significance of 'medline' research.                          | <b>(10)</b> |
| <b>Q.5</b> | What is Patent oriented research? Describe importance of maintaining lab books in protecting your intellectual property. | <b>(10)</b> |
| <b>Q.6</b> | Write short notes on <b>ANY TWO</b> of the following:  | <b>(10)</b> |
|            | a) Sources of errors   |             |
|            | b) Plagiarism  |             |
|            | c) Structure a research paper  |             |

**SECTION-II**

- |             |   |             |
|-------------|---|-------------|
| <b>Q.7</b>  | Describe in detail CPCSEA guidelines on animal experimentation. | <b>(10)</b> |
| <b>Q.8</b>  | Explain in details screening of anti-hypertensives.             | <b>(10)</b> |
| <b>Q.9</b>  | Explain screening of anti-psychotics with specific details.     | <b>(10)</b> |
| <b>Q.10</b> | Give an account on handling of biological waste.                | <b>(10)</b> |
| <b>Q.11</b> | Describe ED <sub>50</sub> determination.                        | <b>(10)</b> |
| <b>Q.12</b> | Write short notes on <b>ANY TWO</b> of the following:           | <b>(10)</b> |
|             | a) Standard deviation   |             |
|             | b) Linear regression  |             |
|             | c) <i>p</i> value   |             |

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