Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **15MA3022** | **Duration :** | **3hrs** |
| **Sub. Name :** | **RESEARCH METHODOLOGY AND BIOSTATISTICS** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. | a. | Describe about basic layout of research report. | CO2 | 10 |
| b. | Describe about different sections of an ideal report. | CO2 | 10 |
| (OR) | | | | |
| 2. | a. | Describe about different types of reports and explain the following reports in details (a) Technical report (b) Popular report. | CO2 | 10 |
| b. | Describe Oral Presentation. | CO2 | 10 |
| 3. |  | Write the short notes on the following points  (a) Development of working hypothesis.  (b) Preparing research design.  (c) Collecting data.  (d) Analysis of data. | CO2 | 20 |
| (OR) | | | | |
| 4. |  | Write short notes on the following points   1. The preliminary pages of scientific thesis. 2. The main text of scientific thesis. 3. The end matter of scientific thesis. 4. Extensive literature survey. | CO2 | 20 |
| 5. |  | Explain the characteristics of Hypothesis. | CO2 | 20 |
| (OR) | | | | |
| 6. | a. | The ages of faculty members in a university biology department are  32.2,37.5,41.7,53.8,50.2,48.2,46.3,44.8,65.0, calculate mean and median. | CO1 | 5 |
|  | b. | A sample of 24 from a population of butterfly wing lengths  Xi (in centimeters): 3.3,3.5, 3.6,3.6,3.7,3.8,3.8,3.8,3.9,3.9,3.9,4.0,4.0,4.0,4.0,4.1, 4.1,4.1,4.1,4.2,4.2,4.3,4.3,4.4.  Calculate mean | CO1 | 5 |
|  | c. | How dispersion or deviation of data can be measured, explain with mean deviation, median deviation, mode deviation. | CO1 | 10 |
| 7. | a. | Describe the methods of collection of data through questionnaires and collection of secondary data. | CO1 | 10 |
|  | b. | Describe the methods of data collection. | CO1 | 10 |
| (OR) | | | | |
| 8. | a. | How processing and analysis of data can be done? | CO1 | 10 |
|  | b. | What do you mean by hypothesis ? | CO1 | 5 |
|  | c. | Explain the observation method of data collection with its limitations | CO1 | 5 |
|  | | **Compulsory:** |  |  |
| 9. | a. | What do you mean by ANOVA technique, Explain the internal procedure of one way ANOVA technique. | CO2 | 10 |
|  | b. | Weight of 10 students are as follows, if σp2 value is 20, then calculate CHI-Square (X2) value   |  |  | | --- | --- | | S No | Weight (Kg) | | 1 | 38 | | 2 | 40 | | 3 | 45 | | 4 | 53 | | 5 | 47 | | 6 | 43 | | 7 | 55 | | 8 | 48 | | 9 | 52 | | 10 | 49 | | CO2 | 10 |