Manipal College of Pharmaceutical Sciences
MAHE, Manipal
BPharm Semester VIII, End Semester Examination – July 2021
PHA-BP801T; Biostatistics & Research Methodology

Date: 07-07-2021   Duration: 2:30pm to 4:30pm (Through MS teams)   Max. Marks: 50

I Multiple Choice Questions (MCQs)		20 Q × 1 mark = 20 marks
1	What is H-Index? 1. Hirsh's Index, and an Author quality parameter 2. Happiness Index and an Author quality parameter 3. Headache Index and an Author quality parameter 4. Helplessness index and an Author quality parameter	1 mark
2	In general, which part of the manuscript will not have reference cited? 1. Introduction 2. Abstract 3. Results 4. Materials and Methods	1 mark
3	Who should be the "Corresponding Author"? 1. PI of the project or the lead person who conceived the idea 2. Senior-most professor in the department who guided the guides 3. PhD Guide 4. PhD Co-Guide	1 mark
4	Which of the following committee/ association guidelines defines authorship criteria? 1. ICMJE 2. WAME 3. IEEE 4. STM	1 mark
5	Which of the following do not belong to a journal? 1. DOI 2. ISBN 3. Journal Impact Factor 4. CiteScore	1 mark
6	Which one of the following tests can be used to analyse the data having skewed distribution. 1. Paired t-test 2. Wilcoxon signed-rank test 3. ANOVA 4. Gaussian test	1 mark
7	What is the p of the number of male children with a dark complexion, if 60/100 pregnancies delivered fair children? 1. 0.4 2. 0.2 3. 0.03 4. 0.3	1 mark

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8	Select a correct statement: 1. Variance is used to find the significance level in the Chi-square test 2. Median is considered to be part of resistant statistics. 3. Mode is unique. 4. Standard deviation can describe the deviation of a sample mean from the population mean.	1 mark
9	Select an appropriate test from below to analyze haemoglobin values obtained from patients, before and after the treatment with a drug? 1. Unpaired t-test 2. Paired t-test 3. Wilcoxon signed-rank test 4. Kruskal-Wallis test	1 mark
10	Using the Chi-square test, to find the association of four different treatments with survival rates in patients, select a correct statement from below: 1. Two by two contingency table needed. 2. Degree of freedom = 3. 3. If calculated Chi-square value < table Chi-square value, indicates a significant association between the variables. 4. $X^2 = \Sigma [E-O]^2 \div E$	1 mark
11.	Which one of the following statistical tests can be used to analyze the distribution free data of four groups involving two variables? 1. Paired t-test 2. Kruskal Wallis test 3. Wilcoxon rank-sum test 4. ANOVA	1 mark
12.	_____ is the ordinal type of data. 1. Gender 2. Religion 3. Pain score 4. Blood group	1 mark
13.	Select a type of correlation between height and pulse rate. 1. Moderately Negative Correlation 2. Perfect Negative Correlation 3. Perfect Positive Correlation 4. No Correlation	1 mark

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14.	The linear regression analysis is used 1. To predict the significant difference between two variables, in normally distributed data. 2. To predict the correlation between two variables, in normally distributed data. 3. To predict the value of one variable based upon other 4. To predict the correlation between two variables, in distribution-free data.	1 mark
15.	For skewed data, which is the better estimate of the centre? 1. Mean 2. Median 3. Mode 4. Range	1 mark
16.	Study of alcohol intake for 10 years and occurring of hepatic disease type of study is: 1. Cohort 2. Case-control 3. Random 4. Cross-sectional	1 mark
17.	Random in Randomization in a clinical trial means: 1. Equal but unknown chance 2. Unequal and unknown chance 3. Unequal but known chance 4. Equal and known chance	1 mark
18.	Efficacy of a new drug A is compared with an existing drug B in: 1. Clinical trial phase I 2. Clinical trial phase II 3. Clinical trial phase III 4. Clinical trial phase IV	1 mark
19.	Bias due to wrong interpretation of laboratory test results and inter-observer variation is: 1. Selection bias 2. Sampling bias 3. Observation bias 4. Recall bias	1 mark

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20.	Which of the following is NOT true about 'informed consent'? 1. Information must be provided about the nature of the study, including its duration 2. There are special considerations to be made for participants who may have a limited understanding 3. Participants must always provide a signature to give their consent to participate in a study 4. The voluntary nature of participation must be emphasized	1 mark

II Short Answers   **6 Q × 5 marks = 30 marks**

1	What are the ethical guidelines followed in experiments on animals and human clinical trials?	5 marks
2	What is publication ethics? Discuss fabrication, falsification, and plagiarism.	5 marks
3	With experimental and hypothetical data, explain the procedure of statistical analysis using the Student's paired t-test.	5 marks
4	Draw a scheme and with examples, describe how to select an appropriate statistical test for any given data.	5 marks
5	Explain the properties and methods to calculate the descriptive measures used in statistical analysis.	5 marks
6	List the limitations of using Microsoft Excel as a statistical tool.	5 marks

*****End of Questions*****