UNIVERSITY OF PETROLEUM & ENERGY STUDIES
DEHRADUN
End-Term Examination – May, 2018

Program/course:BBA(OG)	**Semester – IV**
Subject: Research Methodology & Report Writing	**Max. Marks : 100**
Code : BBCQ123	**Duration : 3 Hrs**
No. of page/s:04	

Section-A

1. Select the most appropriate answer. (2x10)

i. Statistics is used by researchers to
a. Analyze the empirical data collected in a study
b. Make their findings sound better
c. Operationally define their variables
d. Ensure the study comes out the way it was intended

ii. Which one of the following sets is the measure of central tendency?
a. Mean, standard deviation, mode
b. Mean, median, standard deviation
c. Arithmetic mean, median, mode
d. Standard deviation, internal validity, mode

iii. All correlation coefficients
a. are positive
b. are negative
c. range from -1.00 to +1.00
d. range from -1.00 to 0

iv.“There is no relationship between higher motivation level and higher efficiency” is an example of which type of hypothesis?
a. Alternative
b. Null
c. Correlation
d. Research

v. What is the first step in research process?
(a) Developing hypothesis (b) Collection of data (c) Formulating research problem (d) Developing hypothesis

vi. A business research report is the _____ stage of a research process.
a. First b. Second c. Middle d. Last

vii. Which of the following research design,discover of ideas & insights is an objective?
a. Casual b. Diagnosis c. Exploratory d. Descriptive

viii. If we took the 500 people attending a school in Dehradun City, divided them by gender, and then took a random sample of the males and a random sampling of the females, the variable on which we would divide the population is called the _____.
 a. Independent variable
b. Dependent variable
c. Stratification variable
d. Sampling variable

ix. Let's suppose we are predicting score on a training posttest from number of years of education and the score on an aptitude test given before training. Here is the regression equation $Y = 25 + .5X_1 + 10X_2$, where X_1 = years of education and X_2 = aptitude test score. What is the predicted score for someone with 10 years of education and a aptitude test score of 5?
 a.   25 b. 50 c. 35 d. 80

x. How many times the students appear in the research class is the example of _____.
a.   Intensity
b.   Space
c.   Frequency
d.   Direction

Section-B

Attempt any Eight questions.   **(5x8)**

2. What do you mean by hypothesis? How you will decide null hypothesis? Explain with example.

3. What do you mean by sampling frame? How you will decide sampling frame.

4. You are working as a fund manager at XYZ company. The company wants to launch a new financial product in India, therefore the company needs some information about consumer requirements about a new product. Suggest a suitable research and research design in this situation with justification.

5. When Likert scale is used in research. Frame two questions based on Likert scale?

6. How basic research is different from applied research?Provide example in each case.

7. What do you mean by descriptive research design and when it is used?

8. How correlation is different from regression.Explain with examples?

9. A small industry is interested in analyzing the effects of advertising on its sales. Over a 5-month period ,it finds the following results:

X	5	8	10	15	22
Y	6	15	20	30	39

Where X represents the money spent on advertising (in hundreds) and Y represents the total sales(in thousands) . Use these data to determine the correlation coefficient.

10. What do you mean by business research process? Draw the layout of business research process.

Section-C

Answer any Four questions.   **(10x4)**

11. A study was made by a retail merchant to determine the relation between weekly advertising expenditure and sales.The following data were recorded:

Advertising cost(Rs)	40	20	25	20	30	50	40	20	50	40	25	50
Sales	385	400	395	365	475	440	490	420	560	525	480	510

(i) Find the regression line to predict weekly sales from advertising expenditures.
(ii) Estimate the weekly sales when advertising costs is Rs 35.

12. The following data summarises the results of survey of 1,000 selected households to know the investment pattern of people in three cities according to their income. Does this survey provide evidence that the investment pattern depends on income ? Use $\alpha=0.10$

Cities	Below	Average	Above
Dehradun	63	42	15
Delhi	58	61	31
Kolkata	14	47	29

13. The following table showing the wage distribution in a factory. Find mean, median and mode of wage. If the management of the factory wants to fix minimum wages per week, suggest an appropriate measure of central tendency.

Weekly wages(Rs)	0-10	10-20	20-30	30-40	40-50
No. of employess	14	25	27	24	15

14. Samples of two types of engine oil were tested for the length of life and the following information were obtained.

Types of engine oil	Number of litres	Mean	S.D.
Type I	8	1234 days	36 days
Type II	7	1036 days	40 days

Is the difference in the means sufficient to warrant that Type I is superior to Type II with reference to length of life of engine oil. Use $\alpha=0.05$.

15. The mean weekly sales of petrol in a local outlet was 140 KL per outlet. After an advertisement campaign the mean weekly sales in 26 outlets for a typical week increased to 147 KL and showed a s.d. of 16.Can you infer that advertisement is effective in promoting sales of petrol? Use $\alpha=0.05$