



**ALUPE UNIVERSITY
COLLEGE**

... Bastion of Knowledge...

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**OFFICE OF THE DEPUTY PRINCIPAL
ACADEMICS, RESEARCH AND STUDENTS' AFFAIRS**

**UNIVERSITY EXAMINATIONS
2019 /2020 ACADEMIC YEAR
FIRST YEAR FIRST SEMESTER REGULAR EXAMINATION
FOR THE BACHELOR IN HOTEL AND
HOSPITALITY MANAGEMENT**

COURSE CODE: BHM 213

COURSE TITLE: BUSINESS MATHS AND STATISTICS

DATE: 16/12/2019

TIME: 9.00-12.00pm

INSTRUCTION TO CANDIDATES

- SEE INSIDE

THIS PAPER CONSISTS OF 4 PRINTED PAGES

PLEASE TURN OVER

INSTRUCTIONS:-

- Answer **Question ONE** and any other **TWO**
 - **QUESTION ONE** carries 30 Marks.
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INSTRUCTIONS TO CANDIDATES

- Answer **Question ONE** and any other **TWO** questions
- **Question ONE** carries 30 marks
- Time allowed: 3 hours

QUESTION ONE

- a) Discuss the five types of sampling techniques that you can employ in data collection (10 Marks)
- b) Distinguish between discrete and continuous data giving relevant example (5 Marks)

c) From the following information

Class	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	6	8	17	14	13	7

Calculate;

- i. Mean (3 Marks)
- ii. Mode (3 Marks)
- iii. Median (3 Marks)
- iv. variance (3 Marks)
- v. Standard deviation (3 Marks)

QUESTION TWO

- a) Discuss the various statistical methods giving relevant example (10 Marks)
- b) Distinguish between classification and tabulation citing their main objects (10 Marks)

QUESTION THREE

- a) A firm invests £1600 on 1 January each year. On 31 December simple interest is credited at 15% but this interest is put in a separate account and does not itself earn any interest. Find the total amount standing to its credit on 31 December following its fifth payment of £ 1600. (5 marks)
- b) An annuity will pay £ 10,000 for 5 years. What is its future value if the annual rate of interest is 12% (5 marks)
- c) Discuss five uses of statistics and its relevance to management of a hotel establishment (10 Marks)

QUESTION FOUR

- a) Discuss the various causes of depreciation (6 marks)
- b) A company starts in business on 1 January 1999, the financial year end being 31 December.

You are to show:

- a. The plant account. (5 marks)
- b. The provision for depreciation account. (5 marks)
- c. The balance sheet extracts for each of the years 1999, 2000, 2001, 2002. (4 marks)

The machinery bought was:

1999	1 January	1 plant costing £8,000
2000	1 July	2 plant costing £5,000 each
	1 October	1 plant costing £6,000
2002	1 April	1 plant costing £2,000

Depreciation is at the rate of 10 per cent per annum, using the straight-line method, plant being depreciated for each proportion of a year.

QUESTION FIVE

- a) Name two uses of regression. (2marks)
- b) Define the following terms as used in statistics i. Correlation co-efficient (2marks)
 - ii. Positive correlation (2marks)
 - iii. Negative correlation. (2marks)
- c) The data in the table below relates to weekly cost in £s to the age in months of ten machines of similar type in a manufacturing firm.

Age	5	10	15	20	30	30	30	50	50	60
Cost	190	240	250	300	310	335	300	300	350	390

Required:

- a) Product moment correlation co-efficient between age and cost. (8marks)
- b) The co-efficient of determination. Interpret it. (4marks)