



BOWEN UNIVERSITY, IWO
College of Management and Social Sciences
Business Administration Programme
First Semester 2021/2022 Examination

Level	: 100
Course Title	: MATHEMATICS FOR MANAGEMENT SCIENCES I
Course Code	: BUS 103
Instruction	: ANSWER ALL QUESTIONS IN SECTION A & ANY TWO IN SECTION B
Time Allowed	: 2 ^{1/2} HOURS
Date	: 22 ND MARCH, 2022

SECTION A

1. The numerical value of $\frac{\log_2 6 - \log_2 3}{\log_2 8 - 2\log_2 1/2}$ is
2. The Simplification of $3\log \frac{2}{5} - \log \frac{72}{125} + \log 9$ is
3. The set of all ending points is called
4. The roots of the equation $x^2 - 4 = 0$ are
5. If sets A and B are subsets of the universal set U, then A^1 means.....
6. Set C = {odd squares less than 20}, list the elements of Set C.
7. The expression $A \cap B = \emptyset$ means sets A and B are Sets
8. Given the sequence 27, 9, 3. The sum of the 7th term is Approximate your answer to the nearest 10.
9. Find two arithmetic means between -3 and 6
10. The 3rd and 6th terms of a GP are 10 and 80 respectively. Find the first term
11. The 3rd and 6th terms of a GP are 10 and 80 respectively. 4. Find the common ratio
12. Find three numbers in AP whose sum is 3 and product is -15
13. Three numbers in AP are such that their sum is 21 and product is 315. What is the first term?
14. Three numbers in AP are such that their sum is 21 and product is 315. What is the common difference?
15. A set that contain a single element is called set.
16. If there are two sets A and B. Set A is a subset of set B if all the elements in set A are also elements in set B. However, If there is at least an element in B that is not in A, we can say that B is a..... of A
17. If every element in set A are also in set B and vice versa, then the two sets are.....
18. $a \rightarrow b$ is false if and only if a premise leads to a conclusion.
19. The number of ways a delegation of 3 players and 2 coaches be selected from 11 players and 5 coaching crew is ways
20. Solve $\log 5 + \log 0.9$ if $\log 2 = 0.3010$ and $\log 3 = 0.4771$. Your answer approximated to one decimal place is

SECTION B (ANSWER ANY TWO QUESTIONS)

QUESTION ONE (20 MARKS)

A study was carried out on 200 students who offered different courses at FHN College. 85 offered Actuarial Science, 85 offered Supply Chain Management and 80 Project Management. 30 of these students offered Actuarial Science and Supply Chain Management. Those that offered Supply Chain Management and Project Management are 35, 25 offered Actuarial Science and Project Management. However, it was discovered that 30 students did not offer any of the listed courses.

You are required to find:

- i. The number of students that offered all three courses.
- ii. The number of students that offered Actuarial Science and Project Management.
- iii. The number that offered two courses only.
- iv. The number that offered one course only.

QUESTION TWO (20 MARKS)

- a. An investment is estimated to grow at the rate of 15% per annum. If the investment worth N850000 now;
 - i. What will its worth be in the 6th year?
 - ii. What is the percentage increase in its worth after 6 years?
 - iii. In what year will the investment worth N3.28 million? (10 Marks)
- b. Insert 4 G.Ms between 200 and 6.5, and then write the G.P. (10 Marks)

QUESTION THREE (20 MARKS)

Given the following statements:

He is educated and supposing he works hard then he will be successful and he is not successful, therefore he did not work hard.

- i. Identify the simple statements in the above passage
- ii. Analyze the argument involved in the passage into premises and conclusion
- iii. Write the passage in symbolic form and
- iv. Using a truth table, verify the validity of the argument.

QUESTION FOUR (20 MARKS)

- a. The Federal licensing office is interested in the number of ways the new car number plate can be issued so that 3 alphabets start the number plate, 3 digits in the middle and 2 alphabets ending the number plate, but zero must not start any number. How many number plates can be formed if?
 - i. Both letters and digits are, without repetition
 - ii. Both letter and digits can be repeated
 - iii. If the digits must be even but without repetition (12 Marks)
- b. In a business forum, there were 6 Nigerians and 4 foreigners. A committee of five is to be set up to investigate why a particular product line failed. In how many ways can the committee be formed so that there are at least 2 Nigerians? (8 Marks)