ELIZADE UNIVERSITY, ILARA-MOKIN. ONDO STATE

FACULTY: SOCIAL & MANAGEMENT SCIENCES

FIRST SEMESTER EXAMINATIONS
2017/2018 ACADEMIC SESSION

COURSE CODE: FSM 101

COURSE TITLE: INTRO. MATHS FOR SOCIAL & MGT SCIENCES

DURATION: 2 HOURS.

HOD's SIGNATURE 14/3/18

INSTRUCTION: Attempt section A and any two (2) Questions in section B

SECTION A

1. -------- Statements are based on certain conditions A. Simple statement B. Compound statement C. Bi-conditional statement D. Interrogative statement E. Conditional statement

2. ---------- is a conjunctional statement specifying an expected relationship between two or more variables. A. Premise B. Hypothesis C. Bi-conditional statement D. Interrogative

3. This is only false when both statements are false, otherwise it will be true. A. Implication statement B. Bi-conditional statement C. Exclusive disjunction statement D. Bi-conjunction statement E. Disjunction statement

4. If two statements have the same truth-values for all logical possibilities is represented by A. ≡ B. ↓ C. ⇐ D. ∧ E. ⇒

5. If p and q are two statements, such that p ⇒q A. Simple statement B. Compound statement C. Bi-conditional statement D. Interrogative statement E. Conditional statement

6. An argument is an assertion that a statement called the conclusion, follows from other statements called A. Compound B. Hypothesis C. Dis-junction D. Truth E. Negation

7. Simplify $\sqrt{50} - \sqrt{18} + \sqrt{32}$ A. $4\sqrt{2}$ B. $\sqrt{2}$ C. $6\sqrt{5}$ D. $6\sqrt{2}$ E. $2\sqrt{3}$

8. Given that log log 2 = 0.3010, log 3 = 0.4771. Evaluate log 15 A. 1.21 B. 1.54 C. 1.17 D. 1.05 E. 1.82

9. A function is a rule that assigns to each element of one set called A. Relations B. Co-domain C. Domain D. Functions and relations E. Variable

10. ---------- is any quantity or situation that takes different values. A. Range B. Domain C. Co-domain D. Functions E. Variable

11. ---------- are elements that are part of the universal set, but are not in the given set. A. Universal set B. Intersection of a set C. Cardinality of a set D. Power of a set E. Compliment of a set

12. The means of coming together in such a way that no element can be repeated is A. Universal set B. Intersection of a set C. Cardinality of a set D. Union of a set E. Compliment of a set

13. The symmetric difference of a set A and set B is A. {A−B u B−A} B. {B−A n B−A} C. {A−B u A−B} D. {A−B ⇒ B−A} E. {A−B n B−A}

14. A football team has yellow jersey as uniform, while the goal keeper is putting on green jersey. In how many ways can members of the team be arranged for a group photograph? A. 13 ways B. 15 ways C. 11 ways D. 12 ways E. 9 ways

15. In a business forum, there were six Nigerians and four foreigners. A committee of five is to be set up to investigate why a particular product line has failed. In how many ways can the committee be formed so that, there are three Nigerians and two foreigners. A. 30 ways B. 25 ways C. 15 ways D. 35 ways E. 26 ways

16. The demand function of a consumable product is given as Q = 500 -4P. Calculate the quantity that will be demanded if unit price of the product is #50. A. -2/3 B.-1/3 C. 3/5 D. 1/6 E. 2/3

17. A survey was conducted in an effort to determine the most popular Newspaper in Nigeria. Out of the 180 people interviewed, 120 people were in favour of Guardian and 100 people were in favour of Punch. Find the number of people in favour of Guardian only. A. 60 B. 40 C. 80 D. 50 E. 70

18. Use log table, evaluate 0.432^2 × 2.431 ÷ 2.689 A. 0.1688 B. 2.1687 C. 3.5681 D. 4.7628 E. 0.2415

19. Simplify $\sqrt[3]{52)^2} \times \sqrt[2]{1.213)^4} \div \sqrt{1694}$ A. 0.9342 B. 0.9234 C. 0.9421 D. 0.2934 E. 0.2378

20. Solve for x $3^{2x} - 3^{x+2} = 3^{x+1} - 27$ A. $x = 1$ *or* 2 B. $x = -1$ *or* -2 C. $x = 3$ *or* -1 D. $x = -1$ *or* 3 E. $x = -1$ *or* 4

30 Marks

SECTION B

1. Solve the equations: (i). $10^x = 0.0001$ (ii). $2^{2x+1} - 15(2^x) = 1$ (iii). Given that log 2=0.3010, log 3= 0.4771, evaluate (a) log 18 (b) log 27 + log 16 (c) log 50 (d) log 1.5 Using the log table for (iv –v): (iv) Simplify 1.233 ÷ 30.24 (v) Simplify 22.234 x 17.839 **15 Marks**

2. A firm leased a generating set and the fixed and variable cost function for running the generating set is given by the linear function, C (x) =2000 +500x, where x is the quantity of diesel used at a time. You are required to assist the management to ascertain the running cost if;

(i) The generator was not used at all.
(ii) 50 litres of diesel was used

(iii) 200 litres of diesel was used

(iv) What is the quantity of diesel used if the total running cost amount to #80,000?

15 Marks

3a. Distinguish among the followings (i) Universal set and Symmetric set (ii) Cardinality set and power set **3 Marks**

b. A survey was conducted in an effort to determine the most popular Newspaper in Nigeria. Out of the 200 people interviewed, 180 people were in favour of Punch and 120 were in favour of This-Day. Find the number of people;

(i) In favour of both papers

(ii) In favour of This-Day newspaper only

(iii) In favour of one and only one paper

(iv) In favour of Punch newspaper only **12 Marks**