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**HOMEWORK-B3-(A MATHEMATICAL COURSE FOR POLITICAL SCIENCE RESEARCH;9.4 EXERCISES)**

**COURSE CODE AND TITLE- POLI 210(QUANTITATIVE ANALYSIS OF POLITICAL DATA 1)**

1-IDENTIFY THE FOLLOWING AS OBJECTIVE OR SUBJECTIVE PROBABILITY CLAIMS;

A) USING HER OLD GRADEBOOKS, PROFESSOR LINDSTROM DETERMINES THAT THE LIKELIHOOD THAT ONE OF HER STUDENTS EARNS An A IS 0.18.

B) PROFESSOR TURAN SUSPECTS THAT FEW OF HIS STUDENTS HAVE ARRIVED TO CLASS WELL PREPARED.

C)PROFESSOR LONG LEARNS THAT OVER THE PAST FIVE YEARS,79% OF HIS STUDENTS HAVE GIVEN HIM ‘VERY GOOD’ OR ‘EXCELLENT’ RATINGS.

D)PROFESSOR LEE TELLS HER STUDENTS THAT NUCLEAR WAR BETWEEN PAKISTAN AND INDIA IS UNLIKELY.

E) RESPONDING TO A REPORTER DOING BACKGROUND WORK ON A STORY, PROFESSOR TURES EXPLAINS THAT THE INCUMBENT’S POPULARITY HAS RISEN OVER THE PAST SEVERAL MONTHS.

**ANSWER;**

**1- PROFESSOR LINSTORM CLAIM IS AN OBJECTIVE PROBABILITY BECAUSE IT FOLLOWS FROM THE EVIDENCE OF HER OLD GRADE BOOKS TO SUBSTANTIATE HER CLAIM.**

**2- PROFESSOR TURAN PROBABILITY CLAIM IS SUBJECTIVE-THIS IS JUSTIFIED BY THE FACT THAT HE DOES NOT KNOW FOR CERTAIN BUT “SUSPECTS” BASED ON HIS PERSONAL JUDGMENT OR SENSE OF REASONING.**

**3- PROFESSOR LONG CLAIM IS AN OBJECTIVE PROBABILITY BECAUSE HE “LEARNS”;FOUND FROM AN EMPIRICAL RECORD THAT 79% OF HIS ENTIRE STUDENTS GAVE HIM “VERY GOOD” OR “EXCELLENT” RATINGS.**

**4- PROFESSOR LEE CLAIM IS SUBJECTIVE BECAUSE IT IS PREDICATED ON HER “OPINION” OF THE INFORMATION SHE KNOWS ABOUT THE WAR BETWEEN PAKISTAN AND INDIA. HENCE HER VERDICT-’UNLIKELY’**

**5-PROFESSOR TURES CLAIM IS OBJECTIVE BECAUSE HIS STATEMENT FOLLOWS FROM THE EXISTING RECORDS OF INCUMBENT’S POPULARITY OVER THE PAST SEVERAL MONTHS.**

**QTN 2- IDENTIFY EACH OF THE FOLLOWING AS CLASSICAL(OBJECTIVE), EMPIRICAL (OBJECTIVE), OR SUBJECTIVE PROBABILITY CLAIM;**

**A) GELMAN, SILVER, AND EDLIN (2012) EXAMINED REGISTERED VOTER ROLLS AND THE ELECTORAL COLLEGE RULES AND DETERMINED THAT “ON AVERAGE, A VOTER IN AMERICA HAD A 1 IN 60 MILLION CHANCE OF BEING DECISIVE IN THE PRESIDENTIAL ELECTION.”**

**B) GHANAIN POLITICIAN URSULA OWUSU STATED THAT THERE WAS A GREATER THAN 70% CHANCE THAT THE ECONOMY WOULD IMPROVE NEXT YEAR.**

**C)NEW MEXICO GOVERNOR GARY JOHNSON VETOED MORE THAN 200 BILLS DURING HIS FIRST TERM.**

**ANSWER-**

1. **GELMAN, SILVER, AND EDLIN (2012) SUBMISSION IS BASED ON AN EMPIRICAL OBJECTIVE CLAIM- IT GIVES A RATIO OF THE FREQUENCY (I IN 60 MILLION) On AVERAGE OF TIMES AN AMERICAN COULD BE DECISIVE IN THE PRESIDENTIAL ELECTION. IT COMPARES A VOTER HAVING 1 IN 60 MILLION CHANCE OF BEING DECISIVE IN A PRESIDENTIAL ELECTION.**
2. **URSULA OWUSU CLAIM IS A SUBJECTIVE PROBABILITY BECAUSE IT IS NOT FACTUAL BUT BASED ON HIS NORMATIVE THEORIZING OF WHAT COULD OCCUR.**
3. **THE STATEMENT IS OBJECTIVE BECAUSE IT IS PREDICATED ON OBSERVATION DURING GARY’S FIRST ADMINISTRATION IN OFFICE.**
4. **IDENTIFY THE FOLLOWING AS SIMPLE OR COMPOUND EVENTS;**
5. **COUNTRY A INVADES COUNTRY B**
6. **THE PRESIDENT VETOES A BILL**
7. **DISSIDENTS DRIVE THE GOVERNMENT FROM POWER AND CONVENE A CONSTITUTIONAL CONVENTION**
8. **THE SUPREME COURT ISSUES A UNANIMOUS OR SPLIT DECISION**
9. **CHANGES TO OVERTIME REGULATIONS REDUCE PAYROLLS AND LAWSUITS**

**ANSWER-**

1. **THIS IS A SIMPLE EVENT BECAUSE IT ONLY STATES A SINGULAR OUTCOME; WHICH IS THAT THERE WAS AN INVASION IN COUNTRY A BY COUNTRY B.**
2. **THIS IS REPRESENTED AS HAVING OCCURRED TO THE PRESIDENT;HE VETOES A BILL, HENCE IT IS A SIMPLE EVENT.**
3. **THIS IS A COMPOUND EVENT BECAUSE THE REPORT CONNECTED TWO HAPPENINGS WITH THE USE OF “AND” DISSIDENTS DRIVE THE GOVERNMENT FROM POWER AND CONVENE A CONSTITUTIONAL CONVENTION.**
4. **THIS EVENT IS A COMPOUND EVENTS BECAUSE IT STATES THE SUPREME COURT ACTION AS HAVING TWO POSSIBLE OUTCOME(UNANIMOUS OR SPLIT DECISION)**
5. **THIS IS A COMPOUND EVENT AS IT STATES THAT CHANGES TO OVERTIME REGULATIONS HAVE TWO POSSIBLE OUTCOMES(REDUCE PAYROLL “AND” LAWSUITS.**
6. **CHARACTERIZE THE FOLLOWING AS INDEPENDENT, MUTUALLY EXCLUSIVE, AND/ OR COLLECTIVELY EXHAUSTIVE;**

**A)33 YEARS -OLD, MIDDLE INCOME, ASIAN AMERICAN, MALE.**

1. **STRONGLY DISAGREE,NEUTRAL, AGREE.**
2. **VOTE SHARE, SIZE OF THE ECONOMY, EDUCATION LEVEL.**
3. **WAR, NOT WAR.**
4. **LESS, SAME, MORE.**

**ANSWER-**

1. **THIS IS INDEPENDENT BECAUSE THE FACT THAT ONE IS 33 YEARS OLD DOES NOT CHANGE THAT ONE CAN BE MIDDLE, ASIAN AMERICAN AND A MALE-AN INDIVIDUAL CAN POSSESS ALL OF THESE CHARACTERISTICS.**
2. **THIS IS CHARACTERISED AS MUTUALLY EXCLUSIVE REASON IS, ONE CAN EITHER ‘STRONGLY DISAGREE’,BE NEUTRAL OR ‘AGREE’ YOU CAN HAVE YOUR RESPONSE BE ANY OF THESE AT THE SAME TIME OR TO A QUESTION. IN OTHER WORDS, ONE OF THIS CANNOT OCCUR IN YOUR RESPONSE TO A QUESTION WHEN ANY OF THE OTHERS EXIST IN YOUR RESPONSE TO A ASK.**
3. **THESE QUALITIES OR VARIABLES ARE INDEPENDENT BECAUSE THE FACT THAT VOTE SHARE EXIST IS NOT CONSEQUENT OF SIZE OF THE ECONOMY OR EDUCATIONAL LEVE EXISTING TOO. WE CAN COMPUTE FOR ALL OF THESE FACTORS INDEPENDENTLY WITHOUT HAVE ANY CHANGE AS A RESULT OF OTHERS OCCURING.**
4. **THIS IS MUTUALLY AND COLLECTIVELY EXHAUSTIVE IN THAT THESE ARE DIFFERENT AND CONTRARY OCCURRENCE. E.G, YOU CANT HAVE CALM IN A STATE OF WAR LIKELY YOU CANNOT WAR IN A STATE OF CALM. ONE CANNOT EXIST IF THE OTHER HAS EXISTED. IT MUST PERFECTLY FIT ONE CATEGORY. I .E THE TWO HAPPENINGS SEPERATELY.**
5. **THESE VARIABLES ARE MUTUALLY EXCLUSIVE BECAUSE THEY CAN ONLY BE SEPERATELY COMPUTED FOR, YOU CAN FIND PEOPLE HAVING “LESS, SAME AND MORE” AT THE SAME TIME.**
6. **IF A AND B ARE INDEPENDENT EVENTS, ARE THE FOLLOWING TRUE OR FALSE?**
7. **Pr(a n b) =Pr(a)Pr(b)**
8. **Pr(aIb) =Pr(a) + Pr(a)Pr(b)**
9. **Pr(bIa) =Pr(b)**

**ANSWER-**

1. **TRUE- PROBABILITY OF A AND B IS EQUALS THE OUTCOME OF PROBABILITY A AND B SEPERATELY.**
2. **FALSE- A CHANGE IN PROBABILITY B DOES NOT CHANGE A**
3. **TRUE- B REMAINS CONSTANT WHETHER OR NOT A OCCURRED BECAUSE THEY ARE INDEPENDENT**
4. **IF A AND B ARE MUTUALLY EXCLUSIVE AND COLLECTIVELY EXHAUSTIVE, WHAT IS THE JOINT PROBABILITY OF (A OR B)?**

**ANSWER-**

1. **THE JOINT PROBABILITY OF ( A OR B) IS THE SUM OF PROBABILITY B, SEPERATELY.**
2. **IF A, B,C AND D ARE MUTUALLY EXCLUSIVE AND COLLECTIVELY EXHAUSTIVE, AND Pr(A =0.23),Pr(B =0.15), AND Pr(C =0.46),THEN WHAT IS THE JOINT PROBABILITY OF (A OR D)?**

**ANSWER-**

**A)0.23**

1. **IF A ,B, C AND D FORM A SET OF MUTUALLY EXCLUSIVE, COLLECTIVELY EXHAUSTIVE EVENTS, WHAT IS THE JOINT PROBABILITY OF (A AND B AND C AND D)?**

**ANSWER-**

1. **IT IS ZERO BECAUSE BOTH EVENTS A AND B CANNOT OCCUR TOGETHER.**
2. **IF A AND B ARE INDEPENDENT, AND Pr(A =0.13)AND Pr(B = 0.36), WHAT IS THE JOINT PROBABILITY OF (A AND B)?**

**ANSWER-**

**GIVEN THAT Pr(A n B) = Pr(A).Pr(B)**

**THEREFORE;0.13 X 0.36**

**PR(A n B)= 0.13 X 0.36**

**PR(A AND B) =0.468**

1. **LET P(A) =0.3 AND P(A U B) =0.5. FIND P(B), ASSUMING BOTH EVENTS ARE INDEPENDENT**

**ANSWER-**

**P(A n B) =P(A)P(B)**

**0.5 =0.3 X P(B)**

**PB=0.5/0.3**

**5/3=1.67(APPROX)**

1. **LET P(A) =0.4 AND P(A U B)=0.7. FIND P(B), ASSUMING BOTH EVENTS ARE INDEPENDENTS**

**ANSWER-**

**0.7 =0.4 X P(B)**

**P(B) =0.7/0.4**

**7/4 =1.8(APPROX)**

1. **LET P(A) =0.4 AND P(A U B)=0.6. FIND P(B), ASSUMING BOTH EVENTS ARE INDEPENDENT.**

**ANSWER-**

**0.6 = 0.4XP(B)**

**P(B) =0.6/0.4**

**6/4=1.5**

**13)COMPUTE EACH OF THE FOLLOWING:**

**A)12!/7!**

**B)5!/6!**

**C)(12/5)**

**D)(7/2)**

**E)SAME AS C), BUT NOW ORDER MATTERS**

**F)SAME AS D), BUT NOW ORDER MATTERS**

**ANSWER-**

**A)12!/7!=12.11.10.9.8.7.6.5.4.3.2.1/(7.1)(7.6.5.4.3.2.1)=95,040**

**THEREFORE,12 ITEMS ARE IDENTICAL X 7 ARE UNIQUE**

**B)5!/6! = 120/720 =1/6**

**C)12/5 =2.4**

**D)(7/2 )= 7!/(2! X (7-2)! =7!/(2! X5!)=7! = 7X6X5X4X3X2X1**

**2! = 2 X 1**

**5!= 5X4X3X2X1**

**(7,2) =(7 X 6) / (2 X 1) = 42 / 2 = 21**

**E) 12! = 12 11 X10 X 9 X 8 X 7 X6 X5 X4 X3 X2 X1**

**7! =7 X 6 X 5 X 4 X 3 X 2 X 1**

**(12, 5)= (12 X 11 X 10 X 9 X 8)/ (7 X 6 X 5 X 4 X 3 X 2 X 1)**

**= (95040) / (5040) = 18**

**F) (7, 2) = 7! / (7 -2)! = 7! / 5!**

**7! = 7 X 6 X5 X 4 X 3 X 2 X 1**

**5! = 5 X 4 X 3 X 2 X 1**

**(7, 2) =(7 X 6)/ (1)**

**= 42**

**14)A COMMITTEE OF FIVE MEMBERS IS TO BE FORMED CONSISTING OF TWO REPRESENTATIVES FROM LABOR, TWO FROM MANAGEMENT, AND ONE FROM THE PUBLIC. IF THERE ARE SIX REPRESENTATIVES FROM LABOUR, FIVE FROM MANAGEMENT, AND FOUR FROM THE PUBLIC, HOW MANY DIFFERENT COMMITTEES CAN BE FORMED?**

**ANSWER-**

**TOTAL =P(6,2)X P(5,2)XP(4,1)=15X10X4 =600**

1. **IN HOW MANY DIFFERENT WAYS CAN 6 DIFFERENTLY COLOURED MARBLES BE ARRANGED IN A ROW?**

**ANSWER-**

**6! =6X5X4X3X2X1 =720**

1. **A COMMITTEE CONTAINS FIFTEEN LEGISLATORS WITH TEN MEN AND FIVE WOMEN, FIND THE NUMBER OF WAYS THAT A DELEGATION OF SIX;**
2. **CAN BE CHOSEN**
3. **WITH AN EQUAL NUMBER OF MEN AND WOMEN CAN BE CHOSEN**
4. **WITH A PROPORTIONAL NUMBER OF MEN AND WOMEN CAN BE CHOSEN**

**ANSWER-**

1. **THE NUMBER OF WAYS THEY CAN BE CHOSEN-**

**P(15,6) =15! = 15!**

**6!(15 -6)! 6!.9!**

**B)EQUAL NUMBER FOR MEN = P(10,3) =10!/3!(10! -3!)**

**FOR WOMEN =P(5, 3)=5!/3!(5-3)!**

**C)THE PROPORTIONAL NUMBER FOR MEN AND WOMEN CAN BE CHOSEN AS (10,4). W(5,2) + M(10,2) X (5, 4)**

1. **ASSUME THAT FOUR CARDS ARE INDEPENDENTLY DRAWN FROM A (FIFTY-TWO-CARD)DECK WITH REPLACEMENT. WHAT IS THE PROBABILITY THAT THE JACK OF HEARTS IS DRAWN EXACTLY ONCE ASSUMING THAT ALL FOUR SELECTED CARDS WERE JACKS?**

**ANSWER-**

**P(X =1) =(4 C 2) X (1/52)^1 X (1- 1/52)^(4-1)**

**THEREFORE, 4 X (1/52) X (51/52)^3**

**=4 X 51^3 / 52 ^ 4**

**= 103836/ 7311616**

**= PROBABILITY THAT THE JACK OF HEARTS IS DRAWN EXACTLY ONCE GIVEN THE REQUISITE CONDITION = 0.0142**

1. **ASSUME FIVE INDEPENDENT DRAWS WITH REPLACEMENT FROM A DECK OF CARDS. ASSUMING ALL CARDS SELECTED WERE QUEENS , WHAT IS THE PROBABILITY OF THE QUEEN OF SPADES BEING SELECTED EXACTLY TWO TIMES?**

**ANSWER-**

**GIVEN THAT THE PROBABILITY OF CHOOSING A QUEEN OF SPADE IN ONE DRAW IS 1/52**

**P OF NOT CHOOSING A QUEEN IN ONE DRAW IS 51/52**

**THEREFORE, THE PROB. OF CHOOSING A QUEEN OF SPADES TWICE IN 5 DRAWS IS-**

**P(X =2) =(5 C 2) X (1/52)^2 X (51/52)^3**

**P(X =2)= 10 X 000369 0.96206**

**P(X = 2) =0.0035**

1. **ASSUME A FAIR PAIR OF DICE ARE ROLLED. WHAT IS THE PROBABILITY OF ROLLING A 7? HOW ABOUT ROLLING A 3?**

**THE PROBABILITY OF GETTING A 7 =6/36 =0.1667**

**WHILE THE PROBABILITY OF GETTING A 3 =2/36 = 0.056**

**ANSWER-**

1. **RETURN TO THE PROBLEM DESCRIBED IN 9.2.3 AND ASSUME THAT HE FURTHER BELIEVES THAT THE CONDITIONAL PROBABILITY OF FUNDRAISING DINNERS IN THE DISTRICT CHANGES OVER TIME AS FOLLOWS; JANUARY, PR(F/Ir) =0.7;FEBRUARY, PR(F/Ir) =0.8;MARCH, PR(F/Ir)=0.9;APRIL PR(F/Ir) =0.99. HOW SHOULD THE LEGISLATOR UPDATE HIS BELIEFS ABOUT WHETHER THE INCUMBENT WILL RUN AS CONSEQUENCE OF OBSERVING FUNDRAISING DINNERS IN THE DISTRICT IN EACH OF THE SUCCESSIVE MONTHS? CALCULATE THE LEGISLATORS’S UPDATED BELIEFS GIVEN THAT HE OBSERVES A FUNDRAISING DINNER IN FEBRUARY BUT IN NEITHER JANUARY NOR MARCH.**

**ANSWER-**

**FROM THE PROBLEM DESCRIBED IN 9.2.3, THE CONDITIONAL PROBABILITY OF FUNDRAISING DINNERS IN THE DISTRICT CHANGES ARE-**

**JANUARY -PR(F/IR) =0.7, FEBRUARY = 0.8, MARCH =0.9, APRIL = 0.99,**

**USING THE BAYES RULE;**

**LEGISLATOR PRIOR BELIEF =0.5, GIVEN THAT INCUMBENT WILL HOLD FUND RAISING DINNER=PR(F I Ir)=0.6, PR(F ~Ir)=0.4**

**JANUARY = 0.7X0.5/0.7X0.5 + 0.3 X0.5 =0.35/0.5 =0.7**

**FEBRUARY= 0.8 X 0.5/ 0.8 X0.5 + 0.2 X 0.5 =0.4 /0.5 =0.8**

**MARCH = 0.9 X 0.5/0.9 X 0.5 +0.1 X 0.5 =0.45/0.5 =0.9**

**APRIL = 0.99 X 0.5/0.99 X0.5 +0.01 X0.5 = 0.495/0.5=0.99**

1. **WORK THROUGH THE TUTORIAL AT HTTTP\*\***

**ANSWER-**

1. **SOLVE WHAT IS KNOWN AS THE MONTE HALL PROBLEM. THERE ARE THREE DOORS. BEHIND TWO OF THESE ARE GOATS, WHILE BEHIND THE THIRD IS A NEW CAR. YOU CHOOSE ONE DOOR. MONTE HALL OPENS ONE OF THE OTHER TWO DOORS, RREVEALING A GOAT, AND ASKS IF YOU’D LIKE TO STICK WITH THE DOOR YOU HAVE, OR SWITCH TO THE OTHER DOOR HE DID NOT OPEN. YOU GET WHATEVER IS BEHIND THE DOOR YOU CHOOSE. SHOULD YOU SWITCH DOORS? WHY OR WHY NOT?**

**ANSWER-**

**YES, I WOULD SWITCH. THIS IS BECAUSE MY CHANCES OF GETTING A CAR IS 2/3 IF I SWITCH AND IF I DONT, IT DID BE 1/3 WHICH IS NOT A BETTER CHANCE.**

1. **IN A CERTAIN CITY, 30% OF THE CITIZENS ARE CONSERVATIVES , 30% ARE LIBERALS, AND 40% ARE INDEPENDENTS. IN A RECENT ELECTION, 50% OF CONSERVATIVES VOTED, 40% OF LIBERALS VOTED, AND 30% OF INDEPENDENTS VOTED.**
2. **WHAT IS THE PROBABILITY THAT A PERSON VOTED?**
3. **IF THE PERSON VOTED, WHAT IS THE PROBABILITY THAT THE VOTER IS CONSERVATIVE?**
4. **LIBERAL?**
5. **INDEPENDENT?**

**ANSWER-**

**GIVEN THAT P(V I C) =50% - WHERE V REPRESENTS VOTED,C REPRESENTS CONSERVATIVES, L REPRESENTS LIBERALS, I REPRESENTS INDEPENDENTS.**

**P(C) =30%**

**P(V I L) =40%**

**P(L) =30%**

**P(V I I)=30%**

**P(I) =40%**

**THEREFORE(a)= THE PROBABILITY THAT A PERSON VOTED =**

**P(V) =P(VIC) XP(C) +P(VIL)XP(L) +P(VI I)XP(I)**

**LETS PLUG IN THE NUMBERS;**

**(0.050 X 0.30) +(O.40 X0.30) + (0.30 X0.40)**

**P(V) = 0.15 +0.12 + 0.12**

**=0.39**

**THEREFORE, PROBABILITY THAT A PERSON VOTED = 39%**

**B)PROBABILITY THAT VOTER IS CONSERVATIVE IS -**

**P(CIV)= P(VIC) XP(C)**

**P(V)**

**P(C I V)=(0.50 0.30) =0.3846**

**0.39**

**THEREFORE, PROBABILITY THAT A VOTER IS CONSERVATIVE IS 38% APPROX.**

**C)PROBABILITY THAT VOTER IS LIBERAL =**

**P(L I V)= P(VIL) XP(L)**

**P(V)**

**P(L I V) =0.40 X 0.30 =0.3077**

**0.39**

**VOTED BEING LIBERAL = 30.77% APPROX**

**D)PROBABILITY THAT VOTER IS INDEPENDENT**

**= P(I I V)= P(VII) XP(I)**

**P(V)**

**P(IIV)=0.30 X 0.40 = 0.3077**

**0.39**

**THEREFORE, PROBABILITY THAT VOTER IS INDEPENDENT = 30.77% APPROX.**

1. **IF PR(Y) =0.62, WHAT ARE THE ODDS THAT Y OCCURS?**

**ANSWER-**

**IF P(Y)= 0.62**

**ODDS=0.62 /1-0.62**

**THATS IS, 0.62/0.38**

**=62/38**

**ODDS=31/19**

**SUMMARILY, THE ODDS THAT Y OCCURS = 31:19**

1. **IF THE ODDS OF X1 ARE 3:1 AND THE ODDS OF X2 ARE 1:2, WHAT IS THE ODDS RATIO OF X1: X2?**

**ANSWER-**

**THE ODDS RATIO OF X1:X2=**

**3/1=3**

**1/2=0.5**

**THEREFORE, 3/0.5 =6**

**THE ODD RATIO OF X1:X2=6**

1. **A STUDY REPORTS THAT THE RELATIVE RISK RATIO OF VOTING FOR THE NATIONAL FRONT IN A FRENCH ELECTION IS 2.42 FOR AN UNEMPLOYED PERSON RELATIVE TO AN EMPLOYED PERSON, AND 0.38 FOR A PERSON WITH A COLLEGE DEGREE RELATIVE TO SOMEONE WHO DID NOT COMPLETE HIGH SCHOOL. WRITE A SENTENCE THAT DESCRIBES THE IMPACT OF THE VALUE OF THOSE VARIABLES ON THE PROBABILITY OF VOTING FOR THE NATIONAL FRONT.**

**ANSWER-**

**FROM THE STUDY, WE CAN DEDUCE THAT THE PROBABILITY OF VOTING FOR THE NATIONAL FRONT IS HIGHLY DETERMINED BY THE RATE OF UNEMPLOYMENT.COMPARATIVELY, THE LIKELY OF TURNOUT AMONGST UNEMPLOYED PERSONS IS 2.42 AS AGAINST THEIR EMPLOYED COUNTERPARTS. THIS IS FURTHER BUTTRESSED IN THAT THE CHANCES OF PEOPLE A COLLEGE DEGREE TURNOUT FOR THE NATIONAL FRONT IN A FRENCH ELECTION IS 0.38 COMPARED TO THOSE WHO DID NOT COMPLETE HIGH SCHOOL.**

**SUMMARATIVELY, HIGH UNEMPLOYMENT RATE LEADS TO HIGHER VOTERS TURNOUT IN THE NATIONAL FRONT IN A FRENCH ELECTION.**