## -NABIL NAUFAL 61401211008 No.: (4.6) Preschool or not PCAPB) a). Sebuah percobaan acak dengan kemungkinan perolehan gender : laki (-Perempuan, serta apakah preschool atav no Preschool. laki atau Terdapat 4 kejadian pederb). hana: Preschool E, = male & preschool male Ea = male & no preschool no preschoel Ez = female & preschool Eq = female & no preschool Preschool jemale no preschoul female male cj. Preschool No preschool Peluang berdusarkan 4 Kujadian Schihana: Masing-masing P(E3) = 9 P(E2) = 6 P(E1) = 8 259 male P(Em) d). Peluang terpilih P (Em) = 12000 LQ 25 Peluang terpilit female dan preschool P(Fy) no divous 25

|   | No. :  |
|---|--|
| $\frac{1}{2} \frac{D(A \cap B)}{D(A \cap B)} = 0$     | 17   |
| 4.5) P(A) = 0.4 and P(A 1 B) = Q                      |  |
|   | 11. 17 M 140 175 11 1436   |
| u). Find P(BlA)                                       | and the second s |
| Jawab:  | y. They  |
| P(BIA) = BLAMB) P(ANB) =                              | 0.12 = 0.3   |
|   | 0.4  |
| 12 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                | 2  |
| b). Apakah Kejadian A dan B Sa                        | ling lepas!  |
| 7   |  |
| Tidak, karena P(AMB) = 0.3. 2                         | kejadian bida dikarakan  |
| Saling lepas jika irisan keduany                      | a = 0.   |
|   | n - eo   |
| c). Jika P(B) =0.3, apakah A dan E                    | 3 saling bebas?  |
| Jawab:  | 3 1 K 1/4  |
| Ya. Karena P(AAB) = P(A) P(B)                         | = 0.12   |
|   | d 100 1529 m. OM   |
|   | 1.   |
| 4.54) P(T) = 98 % 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Masing Treating Ber  |
| 6 PiEs) = 0 [Eq] = 2                                  | P(E) P (P(E) =   |
| a). Non user fail both test GP PCN                    | )  |
| P(N)=(1-P(T)) (1-P(T))                                |  |
| = (1-98%)2  | Let III male P(En  |
| P(N) = 4 = 0,0004                                     | At The Paris of th |
| 10.000  | TE ( ALL )   |
|   | 25   |
| b). A drug user detected (fails                       | at loast and tank  |
| Jawab:  | at reast one my -)   |
| = 1 - P(N)  |  |
| = 1 - 0.0004  | 2.5  |
| = 0.9996  |  |
|   |  |

(KIKY)

180 mm x 257 mm

|  |   |   |          | No.:  |
|--|---|---|----------|---|
| c], A drug us                                  |   | test (  | (517 POS | c). P(s1PO1) = P  |
| = (1-P(T))                                     | (1-PCT)) 4581   | 1.0   | (109)9   |   |
| = (1-98%                                       | ) 2   |   |          |   |
| = 0.000 4                                      | Alga sylautal   | 7350  | o Hist   | Ser. Ha   |
| -  |   |   |          |   |
|  | F13 109 /   |   |          |   |
| (5.57) Mammog                                  | ram Diagnostic  |   | Ţ.       |   |
|  |   | PCPOSIS.  | )        |   |
| a).  | ( ( ) p 1/2   | Terpositif  | PCS      | APOS) = P(s) x P(POS 15)  |
|  | Pcs)  | =0.86   |          | =0.01 × 0.81  |
|  | Kanker  | )   | •        | = 0.0086  |
|  | = 0.01  | P (POSC)S   | )        |   |
|  |   | Ternegatif  |          | Pos') = PCS) x P (Pos')   |
|  |   | = 0.14  |          | = 0.01 × 0.14   |
|  | Kellery).   |   |          | = 0.0014  |
| (-Mamogram/                                    | ***   |   |          |   |
|  |   |   |          |   |
| Diagnostic                                     |   | P(posisc)   | = (209   | Buche walk Pers   |
|  | •   | P (Postsc)<br>Terpositit                                      | -        | rapos) =P(sc) x P(pos)s   |
|  | P(Sc)   |   | -        | ~ n Pos) = P(s <) x P(pos)  |
|  | P(SC) Non Kanker  | Terpositit  | -        |   |
|  | Non Kenker  | Terpositit  | P(S'     | 8811.0 = (POS)  |
| Diagnostic \                                   |   | Terpositit<br>= 0.1/2 001                                     | P(S'     | 8811.0 = (POS)  |
| Diagnostic \                                   | Non Kanker  | Terpositit = 0.12   | P(S'     | 8811.0 = (203)  |
| Diagnostic \                                   | Non Kanker  | Terpositit = 0.12  ( cold ( Lite PC POS = ) S = )  Ternegatit | P(S'     | 20.99 x 0:12) 9<br>(209) = 0.1188<br>(209) = P(sc) x P(PO)        |
| -Diagnostic                                    | Non Kanker  | Terpositit = 0.12  ( cold ( Lite PC POS = ) S = )  Ternegatit | P(S'     | 20.99 x 0.12)<br>8811.0 = (204)<br>109)9 x (20)9 = (209)          |
| b). Buktikan PCPUL                             | Non Kanker  | Terpositit = 0.12  ( cold ( Lite PC POS = ) S = )  Ternegatit | P(S'     | 20.99 x 0.12)<br>8811.0 = (204)<br>10939 x (204)<br>88.0 x 60.0 c |
| b). Buktikan PCPW Jawab:                       | Non Kanker<br>-0.99   | Terpositit = 0.12  P(POSC)SC  Ternegatit = 0.88:              | P(S'     | 20.99 x 0.12)<br>8811.0 = (204)<br>10939 x (204)<br>88.0 x 60.0 c |
| b). Buktikan P(Pos) = P(S                      | Non Kenker<br>= 0.99<br>) = 0.1274<br>n Pos) + P(s'n                  | Terpositit = 0.12  P(POSC)SC  Ternegatit = 0.88:              | P(S'     | 20.99 x 0.12)<br>8811.0 = (204)<br>10939 x (204)<br>88.0 x 60.0 c |
| b). Buktikan P(Pous Jawab: P(Pos) = P(s) = 0.0 | Non Fanker<br>= 0.99<br>) = 0.1274<br>n Pos) + P(sc n<br>086 + 0.1180 | Terpositit = 0.12  P(POSC)SC  Ternegatit = 0.88.              | P(S'     | 20.99 x 0.12)<br>8811.0 = (204)<br>10939 x (204)<br>88.0 x 60.0 c |
| b). Buktikan P(Pous Jawab: P(Pos) = P(s) = 0.0 | Non Fanker<br>= 0.99<br>) = 0.1274<br>n Pos) + P(scn<br>086 + 0.1180  | Terpositit = 0.12  P(POSC)SC  Ternegatit = 0.88:              | P(S'     | (209) = 0.1188<br>(1905°) = P(5°) × P(90)<br>= 0.00 × 0.88        |

No.: 0.0086 0.0675 D (Sn POS) c). P(s1 Pos) = 0.1274 P(POS) Diagnostic Test Breast Cancer dJ. Pos (1) Yes (1) Neg(0) 100 women Pos (12) No (95) P1.0 x 10 0 = Neg(87) F100.0 = Builthian bahwa P(SIPOS) = 0.08 Jawab: P(SIPOS) = P(SNPOS) = (1/100) 0.076 20.08 P(POS) ((1+12)/100) Terbukt; Lagring + PCS. 11 400) + 6800 0 = Crowkt MFG1.0 = 180 mm x 257 mm

| (5 11) p D . C   | No.:                             |
|--|----------------------------------|
| (5.16) Bayers Rule, Suppose we know we want to find P (AIB)  | P(A), P(B), and P(PC) A)         |
| we want to find P(AIB).  | (ALE SIE                         |
| Phinner  |                                  |
| P(BIA), explain why P(AIR)   | a) probability for P(AIB) and He |
|  | P(A (B) /P(B) -                  |
|  | (2 A 4 (2 )                      |
| Jawab:   |                                  |
| $P(A B) = P(A \cap B)$ , jika A dar  | B soling behal: P/AOR) = P/AOR)  |
| P(B)   | (Elano (ACINO                    |
| = P(A).P(B) , P(B) =   | P(B/A) Jika A dan B saling below |
| - P(B)   |                                  |
| The state of the s | ELAS PEBLAST FLASS PLB           |
| = P(A). P(BlA) Terbukt   |                                  |
| P(B)   | (A) DYATATA                      |
| o (3H)   | 9 7 7 7 7 2 4 6 1 3 3 2 1 1 4    |
| b). Spiffing the event that occ  | curs into two parts, according   |
| to whether A occurs, explain why   | it knight "                      |
| P(b) = P(B) A)+ P(B)   | 1Ac)                             |
| Jawab:   |                                  |
| P(B(A)+P(B(AC)   | V                                |
| = P(BNA) + [P(B) - P(BNA)]   |                                  |
| = P(B) Terbukti  |                                  |
|  |                                  |
| c). Using part B and the definition o  | t conditional probability, explo |
| why P(B) = P(A) P(B A) +   | P(Ac) P(BlAc)                    |
| Jawab:   |                                  |
| PLA) PCBIA) + P(AC) PCBIAC)  | TP = P(ANB)+P(B)-P(ANB)          |
| = P(A) P(AOB) + P(AC). P(ACOB)   |                                  |
| P(A')  |                                  |
| = P(ANB) + P(ACNB)   |                                  |
| 180 mm x 257 mm  | CAN)                             |

|   | No.:                                 |
|---|--------------------------------------|
| d). Combining with you have shown in pa                     | erts a-c, reason that                |
|   | a king kad of the ord                |
| P(A B) = P(A)P(B A)   | <u></u>                              |
| PCA) P(BIA)+ P(AC) P  | (BIA)                                |
| e not box (BIA) and it was in leave                         | BAN WALL CALL                        |
| Jawab:  | Carel Language                       |
| P(Alb) = P(Anb)   | Artes 6                              |
| P(B)  | PCA(8) = P 140B)                     |
| dan Bishi bbal. PEANER) = PEANERA                           | A note: (81.6 4 = 161827             |
| = P(A) P(AOB)   | (8)4                                 |
| We put P(A) de A del (A18)9 = (8                            | 09 ( (a)f.(A)9 =                     |
|   | Dan C                                |
| P(A) P(BIA)+ P(A)P(BIA)                                     |                                      |
| فريري لجاء  | 7 F.A.). P(B A) TEN                  |
| $= P(A) \cdot P(B A)$                                       | 219                                  |
| P(A)PCB/A)+P(AC)PCB/AC)                                     | ) 3                                  |
| 60 1 10 1 1 1 1 mm 60 1 10 10 10 10 10 10 10 10 10 10 10 10 | ments their their old married (d     |
| Terbukti  | added the property of                |
| i(Anay  | 9 + 1 + 100 10 = (4) 9               |
|   | dress                                |
| P(A) - P(Bn   | P(B) = (PAD a) = (18)+               |
|   | [(ADB)9-(B)] + (ADB)9 =              |
|   | iting is (a) 9:                      |
|   |                                      |
| on of conditional probability out to                        | of in series by and the schinit      |
| - P(N°) P(BIA')   | * 15 0 C4, 8 = (4 10 1)              |
|   |                                      |
| PERMANAPORT PORT  | Jourab:<br>DIES P(RIA) + P(A) P(RIA) |
| 1 (a) (a) (a) (a)   | and the same and the same            |
| (34)  |                                      |
|   | 18.                                  |