Probability &

Stastistics

- (EASSIGNMENT-01)

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Section: BSDS(Afternoon)

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SUBMITTED TO:

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(Question-1)

The table below shows the results of a study in which researches examined a child's 10 and the presence of a specific gene in the child. Find the Probability that the child has a high IQ, given that the child has a high IQ, given that the child has the gene

	Gene Present	gene not present	Total
High 10	33	19	59.
Mormal 10	39		50
Total 10	72	30	109

using the conditional Probability formula

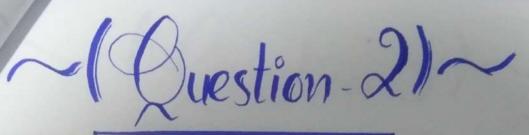
P (High 10 | Gene present) = P (High 10 and Gene present)

P (Gene Present)

P (High 1 Qand Gene present) = 33 P (Gene present) = 72

P(High 10 | 4 ene present) = 33
72
= 0.4583

Probability of the child having (45.83%) having High 10 with their gene's present = 45.83%.



In a Jusy selection pad, 65% of the people are female. of these 65%, one out of four works in a health field.

1. Find the probability that a randomly selected person from the jury pool is female and works in a health field.

&. Find the probability that a randomly selected person from the jury pool is bemale

ome probability of being temale is 65% or 0.65 in a realth field.

in a realth field is found of 4, 1

Probability of being ternale and 4

P (Fernale & health field) = P (Fernale) x P (Health field | Fernale)

= 0.1625 = (16.25%)

Probability of being female and not washing in a health field:

P(Fernale and Not health field) = 0.65-0.1625 = 0.4875

z (48-75)%.

(Question-3)~

A blood bank catalogs the types of blood, including positive or negative Rh-factor, given by donars during the last five days The number of donors who gave each blood type in shown in figure A donor is selected at roundom.

In Find the probability that the donor has the type of or type A blood.

Type of or type A blood.

Type 8-blood or is RW-negative

		Blood TYPE					
		0	A	В	AB	total	
Rh-	Positive	156	139	37	12	344	
	Negaitive	28	25	8	4	65	
	total	184	164	45	16	409	
factor	1000						

i- Probability that the dones has type o or type :

P(Type 0) = Number of Type 0 donors = 184 = 0.4498

P(Type A) = Number of Type A donors = 164 = 0.40097

P(Typeo)+P(TypeA) = 0.04498+0.40097 = 0.85077

2/85.077)%

11. Probability that the drups has type Blood or Rh-negatives

P(TypeB) = 45 = 0.11002

P(Type Rh-negtive) = 65 = 0.15892

P(Type & ntype Rh-negative) = 0.019 & nRh-neg)
P(Type B)+P(Type Rh-negative) = 0.11002+0.15892
2 0-26894-0.0195

2 (24.43) /

(Question-4)~

in your visitory course.

a) Three students present per day. How many presentation orders are possible for the first day

b) Presentation subjects are based on the units of the course. Unit B is covered by three students, unit C is covered by 5 students. Unit A and p each are covered with four students each other.

n) Possible presentation orders:

$$n=16$$
 $\gamma=3$
 $mp_{\gamma} = \frac{m!}{(m-\gamma)!}$
 $(m-\gamma)!$
 $(16p_3 = \frac{16!}{(16-3)!} = \frac{(16\times15\times14\times15)!}{(16-3)!}$
 $= 16\times15\times14 = 3360$ ways

b) Presentation subjects?

(Question-5)~

Rotator Coff sugery now 90%. chance of success. The surgery is performed on twice patient find the probability of two suggery being successful on exactly two patients.