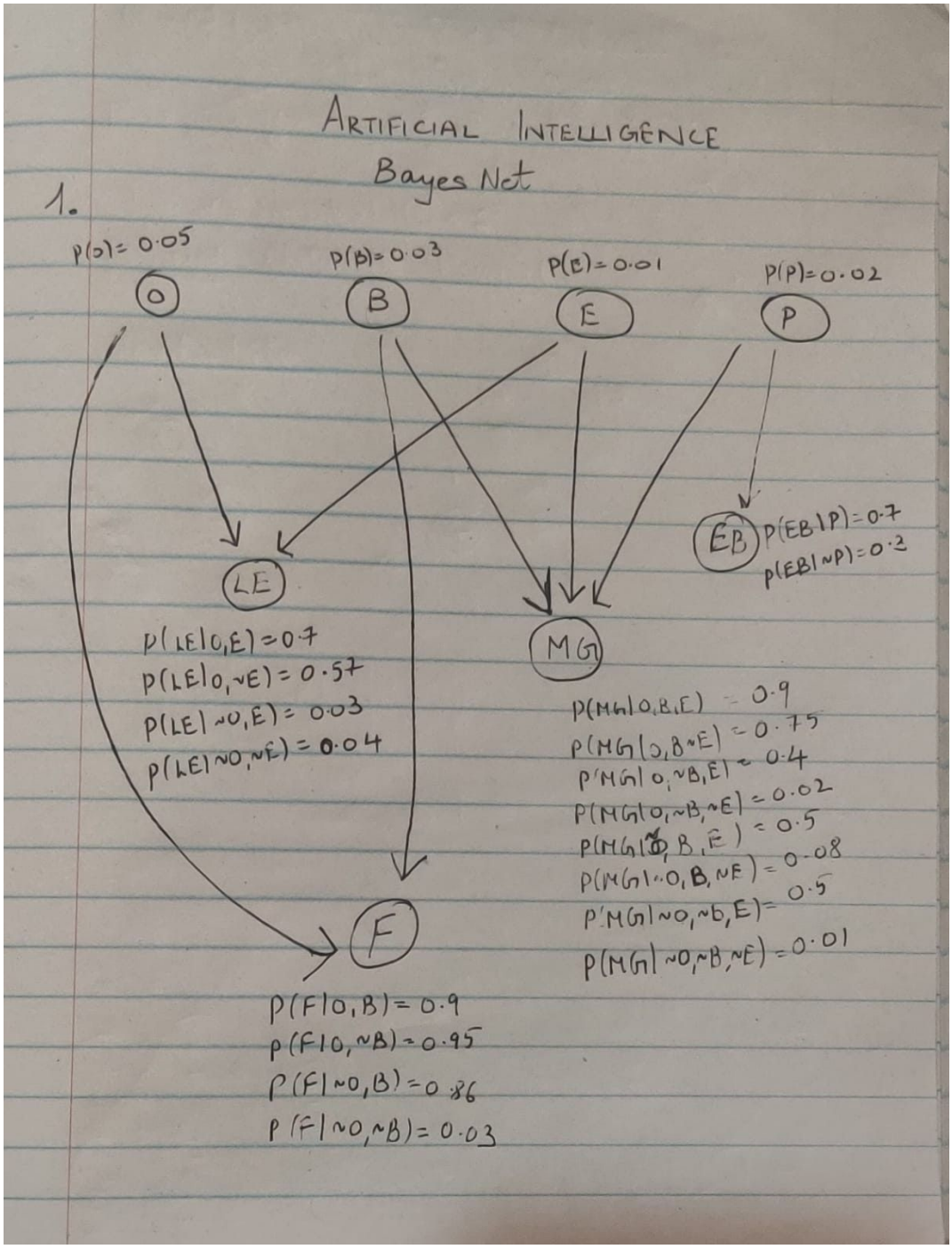
Artificial Intelligence
Assignment 5

1)



Where
O = Owl ; B = Bat ; E = Enchida ; P = Panda ; LE = Lays Eggs ; MG = Mammary Glands ; F = Flies ; EB = Eats Bamboos

2)
The Conditionally Independence that holds good are as follows :

- O is conditionally independent with rest of the network given LE and F
- B is conditionally independent with rest of the network given F and MG
- E is conditionally independent with rest of the network given LE and MG
- P is conditionally independent with rest of the network given EB and MG
- LE is conditionally independent with rest of the network given O and E
- MG is conditionally independent with rest of the network given E, B and P
- EB is conditionally independent with rest of the network given P
- F is conditionally independent with rest of the network given O and B

3)
The probability that :

a) The animal can fly :
   = (0.9*0.05*0.03) + (0.95*0.05*0.97) + (0.86*0.95*0.03) + (0.03*0.95*0.97)
   = 0.09946
b) The animal is an echidna :
   = P(Echidna = True) = 0.01
c) Since Bat is conditionally independent of eating Bamboo,
   P(B|EB) = P(EB|~P) = 0.03