Part B, 1–5. Symbolize the following arguments in the spaces provided, and give deductions for them. Check the symbolization answers at the end.

(1) Everything is either green or red. Chicago is not green, but it is square. So, Chicago is red and square.

1. _______________________    Prem
2. _______________________    Prem
3. _______________________    Prem
4. _______________________    Prem
5. _______________________    Prem
6. _______________________    Prem
7. _______________________    Prem
8. _______________________    Prem
9. _______________________    Prem
10. _______________________    Prem

(2) All things are human or matter. All matter is expendable. Data is a non-human machine. So, Data is expendable.

1. _______________________    Prem
2. _______________________    Prem
3. _______________________    Prem
4. _______________________    Prem
5. _______________________    Prem
6. _______________________    Prem
7. _______________________    Prem
8. _______________________    Prem
9. _______________________    Prem
10. _______________________    Prem

(3) All pink horses are rare. All rare horses are expensive. Allegro is a pink horse. So, Allegro is an expensive horse.

1. _______________________    Prem
2. _______________________    Prem
3. _______________________    Prem
4. _______________________    Prem
5. _______________________    Prem
6. _______________________    Prem
7. _______________________    Prem
8. _______________________    Prem
9. _______________________    Prem
10. _______________________    Prem

(4) Queen Elizabeth is an orator and funny too. All orators have had voice lessons. So, something funny had voice lessons.

1. _______________________    Prem
2. _______________________    Prem
3. _______________________    Prem
4. _______________________    Prem
5. _______________________    Prem
6. _______________________    Prem
7. _______________________    Prem
8. _______________________    Prem
9. _______________________    Prem
10. _______________________    Prem

(5) Some people are smart and funny. All things are made of matter. So, some material things are smart funny persons.

1. _______________________    Prem
2. _______________________    Prem
3. _______________________    Prem
4. _______________________    Prem
5. _______________________    Prem
6. _______________________    Prem
7. _______________________    Prem
8. _______________________    Prem
9. _______________________    Prem
10. _______________________    Prem

11. _______________________    Prem
Some help: Here is how you symbolize these arguments. Of course, you have to give the deductions too.

(1) \((\forall x)(Gx \lor Rx)\), \(\sim Gc \land Sc\) \(\therefore Rc \land Sc\)

(2) \((\forall x)(Hx \lor Mx)\), \((\forall x)(Mx \supset Ex)\), \(\sim Hd \land Ad\) \(\therefore Ed\)

(3) \((\forall x)[(Px \land Hx) \supset Rx]\), \((\forall x)[(Rx \land Hx) \supset Ex]\), \(Pa \land Ha\) \(\therefore Ea\)

(4) \(Oe \land Fe\), \((\forall x)(Ox \supset Vx)\) \(\therefore (\exists x)(Fx \land Vx)\)

(5) \((\exists x)[Px \land (Sx \land Fx)]\), \((\forall x)Mx\) \(\therefore (\exists x)[Mx \land (Sx \land Fx \land Px)]\)