1. **Is computer science a science?**

Arguments against: It is not a science because it helps other sciences. Such as it helps biology by making software. Even though you do come up with new discoveries such as science, it is not natural such as biology, computers are manmade.

1. **What makes a discipline a discipline?**

A discipline abides by certain types of rules. I.e. disciple of computing is the systematic study of algorithm process.

1. **Does technology mean progress?**
2. Enlightenment: Technology as means to political and social (economic) liberation. Democratic checks on science and technology. Used instrumentally to overcome monarchy
3. Technocratic era: Technology as ends it itself is progress. Social/Political liberation are detached from technology. Just keep on improving technology and it gets better. Ex. American as a powerhouse – industrial revolution
4. Counter-enlightenment: Technology does not lead to liberation. Be critical/skeptical. Not all science and technology is good. Loss of trust in science. Ex. Genetic foods- Monsanto, been doing it forever. Current era, aka romantic period.

Instrumental: When you value something. Ex – cars  
Inherent: Something you would like. Ex. Friends/family

Social constructivism: (S->T) Society can influence technology. Ex. Redneck people and shotguns, racist society influences racist technology.  
Social co constructivism: (S <--> T) Society & technology both influence technology. Ex. Nuclear power:

Technology determinism:   
 Hard: Humans don’t have free will to influence technology, it will always happen  
 Soft: Society can push back and shape technology.   
 - Ex. The last samurai, works for both hard and soft

Tech momentum: When technology is first introduced, its malleable, but after it picks up momentum, it is much harder.

1. **Artifacts and Politics**
2. 1 - Artifacts shaping social order

* The bridge built to prevent low class
* Handicap technology: only small population but a lot of building accessible because of them.
* Mccromic machines example

1. 2 – Artifacts highly compatible with social order

* Alternative energy: have control of our circumstances. Ex. Solar energy. Decentralized people have control

1. 3 – Artifacts are necessary and will change social order:

* Nuclear energy: country chose to adopt nuclear leads to governments becoming more centralized and having more control, more surveillance. Hence, reducing freedom and more control from government.

Technology as forms of life:

* Technological Somnambulism: used by Winner to defend against technological determinism; We can wake up from our state and change it 🡪 Sleepwalking
* Technologies govern our life: Accuse more people of being technocrats and value technology inherently
* Tech assessment: Way out of somnambulism
  + Maker and users come together to use/make technology in ways
  + \*Read impact studies example

Luddite: person who doesn’t like technology.

1. **Utilitarianism/Deontology**

Utilitarianism: Measure in the happiness of the end results

* Consequentialism: only the consequences are considered. Ex shooting people: better to shoot 1 and save other.
* Hedonism: consequence affecting happiness
* Aggregative: bias can’t be introduce. Utilitarianism must be looked from disinterested (spectator doesn’t gain anything) and bnelovant (want good outcome) spectator

Criticism of theory: Counter intuitive results: means to achieve goals all that matters. Ex. Hiroshima bombing.

Deontology: Rights, Duty, Rationality, Categorical imperative

* FUL: Formula of universal law: Act always in such a way, that the maximum implicit in your action fits to be the universal law. If you do something, and that everyone does the same, then it should still work. Ex. Borrowing money from bank when you know you can’t pay back.
* FEI: Formula End in Itself: Act always in a way that you would treat other rational beings as ends in themselves and never as mere means. Human rights are very important. Ex. Being friends with someone for your own agenda (to get a promotion)
* Category Imperative: Others must act as rational creatures towards others
  + Criticism: Exclusivity --?

John Rol’s theory of justice fairness: Social Contract

* Place yourself where no society exists, and imagine everyone right now in a new world, and no one has nay work, everyone is equal. Will this be fair to everyone?
  + Should you borrow money you can’t pay back?
  + Right vs non right
  + All rational creature agree to economic difference as long as it benefits everyone. Ex. Those who benefits from healthcare. Pay more for doctors.

Original position vs Veil of Ignorance:

* Remove morally arbitrary facts: sex, race, belief. Ex case: we need slavery, remove the arbitrary facts from argument by putting veil of ignorance.

1. **Technological Singularity**

Artificial Intelligence vs Intelligence Amplification?

Burner vinges use of tech determinism?

Crisis of legitimacy: Sudden and widespread lack of trust in science and technology from the public. Spread throughout the world, people stop having faith in engineering.

Problem: Most economies depend on technology. Governments tries to solve this:

1. Public Understanding of Science Technology Movement (PUST): People see irrational fear of the unknown

* Fix this through education, educate public to make them understand science and technology
* Makes use of the deficit model; deficit of knowledge to public. Scientists need to communicate better to public. Once they impart their knowledge, the problem will be solved.

1. Public engagement in Science Technology Movement (PEST): deficit model is not an exact problem to crisis of legitimacy. Public engagement with science and technology lacking.

3 Examples:

1. Genetically modified organism: People do not trust genetic modification. But they do not understand that nothing dangerous about it and everything we eat ex. Fruits are genetically modified.

* If people understood it, they would trust it.
* Against the way it is introduced and run by huge companies such as Monsanto. People are against the way it is used, not mad at science, but politics surrounding it.

1. Mad cow: People had problems with science/technology and its closeness with government. –need more stuff
2. AIDS: Argument that not caused by HIV is very controversial. Ex. Public misunderstanding of trying to sit down African leaders and explaining AIDS as critiqued by them. .

* Argument that pharmaceutical company’s charign a lot for cures and a lot of mistrust in them, hence people profiting of aids.
* Politically empower the public to be able to make science about science and technology.