**Q1.** What is the market power (or monopoly)? Give an example of each of the following

(i)Technology monopoly

(ii)Government monopoly, and

(iii)Company’s enforced monopoly

**Ans**. Market Power (or monopoly) : Is a dominant position of an industry or a sector by one company, to the point excluding all other competitors. They are in direct control of the market share to the supply of or trade of commodity or service.

1. Technology Monopoly – Google, Amazon, Meta, alphabet
2. Government monopoly – USCS, Railways, Bus, NJ Transit
3. Company’s enforced monopoly – Apple products, iphone, ipad, airpod

**Q2.**

Define externalities, negative externalities and positive externalities. Give examples

**Ans.   
  
Externalities –** Externalities are cost or benefit i.e. impact caused by the producer that is not financially incurred or received by producer.   
It can be positive or negative which is cause or an effect of their good production or consumption of its services.   
Cost or benefit can be to individual or organization or affect whole society.

Almost all Externalities are considered to be technical.

**Negative Externalities –**

These are the effects that negatively impact the individual it could be health wealth or benefit, organization or society as a whole in case of overall economy.

e.g. Pollution and its impact to the local residents around the tanneries or industries outlet into natural resources like rivers and air

**Positive Externalities –**

There are also positive impact created by the industries / organization based on their impact to the society.   
For example, employment of educated individuals who are intelligent, Creative and innovative helps in building up the economy and sustainable environment for tomorrow.

**Q3.**

What are the advantages and disadvantages of regulated economy?

**Ans.   
Regulated Economy**: Application of law by government or agency for various purpose like remedying market failure, protecting environment, economic management.   
A regular gov body which controls, regulate and monitor the market prices and charges- financially and economically.

|  |  |
| --- | --- |
| **Advantages** | **Disadvantages** |
| Special privileges are granted to those follow | Curtails freedom of market partcipants |
| Rules and regulations on how goods and service to be marketed | Controls the behavior of market players |
| Helps to define rights consumers have to demand refunds or replacements | Those who fail to follow are subject to funes and imprisonment |
| Less inequality – all are given same opportunities and cost | Lacks competition inhibits innovation in the organisation - |
| Some benefits in maintaining environmental balance , protects environment | Heavy regulation may hurt competitiveness |
| Looks for safety of consumers |  |

**Q4.**

Telecomm market is the blood flow of economy as it supported variety of product offering in the past, as well as now. Name the current and past product offerings and explain the enabling technology called “Network Slicing”

**Ans.**

**Past Product Offering -** Telephone, Fax, Telegraphs over wires

**Current Product Offering** – IoT in healthcare, manufacturing and energy, Streaming service – amazon Netflix, roku , Machine to machine communication, V2V communication

eMBB – enhanced Mobile broadband

mMTC – Massive Machine Type Communications

uRRLC – Ultra Reliable Low Latency Communciation

**Enabling Technology – Network Slicing**

* Different network configurations which allow multiple networks virtualized and independent to be created on top of common physical infrastructure
* Slice is a portion of network that can be dedicated to specific needs of the application use case or customer
* This helps in efficient reassignment of resources from one virtual network slice to another and logical isolation from other slices
* This helps in enabling different applications with different requirements- latency priority speed.
* Multiple unique logical & virtualized networks over same physical infrastructure
* Applications that are enabled or enhanced by 5G need greater bandwidth more connections and lower latency than before. Usage varies case to case basis
* Network Slicing SDN is an essential part of architecture to manager traffic flows thru API;s of central control plane
* SDN includes infra later which contains basic network services responsible for data forwarding and rule processing from control plane.
* Orchestrator maps services and monitos functionality etweej other layers
* Network Function virtualization is another prerequisite for slicing. Install network functionality onto VMs on a virtualized server to provide serices traditionally ran on proprietary hardware

