3 Information failure refers to situations in which economic agents have imperfect information regarding the benefits or costs of their actions as well as when information between the transacting parties is asymmetric in nature.

(a) Explain how information failure could lead to market failure. [10]

(b) Discuss the view that government intervention to correct the above market failure is always desirable. [15]

(a)

Intro:

- Define market failure/ imperfect info / asymmetric info
- Direction statement: Both sources of information failure lead to market failure as they lead to allocative inefficiency through overconsumption OR underconsumption

Market failure refers to a situation where decisions made based on market forces of demand & supply fail to achieve efficiency in resource allocation and thus there is welfare loss to society. Imperfect information means that consumers (or sellers) do not have full relevant knowledge about the product and so they are not able to make a good decision. Consumers may have inaccurate, incorrect or incomplete information about the product. They may also have less information than sellers, in which case this leads to asymmetric information and thus market failure. Both forms of information failure lead to situations where consumers either overconsume or underconsume a particular good or service. This leads to allocative inefficiency and thus market failure.

TS1: Imperfect information leads to partial market failure as the consumers fail to recognise the true benefit/cost of consuming a good and therefore under/over consume it leading to allocative inefficiency.

Consumers and producers make cost-benefit decisions based on the information that they have. When the costs and benefits that they perceive of consuming certain goods and services are not accurate, this can result in them making decisions that do not maximise their welfare. An example of this can be seen in the market for sugary drinks. Consumers of sugary-drinks make decisions on how many drinks to consume based on the costs and benefits that they perceive of consuming those drinks. An example of the benefits to a consumer would be the enjoyment of the taste and the burst of energy they may get when drinking those drinks. A cost that the consumer may perceive would be the price that they need to pay in order to purchase the drink. However, many consumers may fail to consider the possible long-term damage that consuming sugary drinks may have on their health. An example of this would be that regular consumption of such high amounts of sugar can lead to obesity and other related ailments such as diabetes. This is likely to be because the enjoyment of the sugary drinks is immediate whereas the health problems it may cause are often slow to occur and often do not show any outward signs until the problem is quite advanced. Thus consumers often discount theses costs involved in consuming sugary drinks and do not take them into account when making the decision on how many sugary drinks to consume.

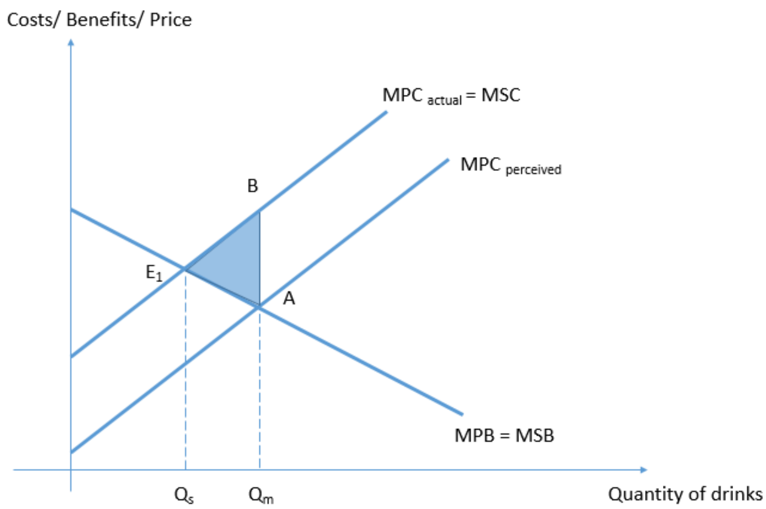

Fig 1. Imperfect info causing market failure in market for sugary drinks

This situation is illustrated in figure 1. In this situation, we assume that there are no positive externalities involved in drinking sugary drinks, making the marginal private benefit (MPB) the same as the marginal social benefit (MSB). Since the consumer fails to take into account the harm to their health, the marginal private cost perceived ($MPC_{perceived}$) is less than the actual marginal private cost (MPC_{actual}). Assuming there are no negative externalities involved, the actual marginal private cost is also equal to the marginal social cost (MSC). The consumers choose to purchase a quantity of drinks up to where the MPB is equal to their perceived MPC. This is because they believe this quantity maximises their welfare. However, since the actual MPC is higher than the perceived MPC, the quantity that will actually maximise their welfare is at Qs, where MPC_{actual} intersects MPB. This results in a situation of overconsumption as Q_m is more than Q_s. For each unit between Qs and Qm, the costs to society (MSC) is greater than the benefits gained (MSB), resulting in there being a net loss of welfare for each unit consumed. The sum of these losses is seen by area E1BA, making up the deadweight loss as a result of overconsumption. Thus the imperfect information causes allocative inefficiency and the market fails.

TS2: Asymmetric information leads to partial market failure in the form of causing adverse selection. This would lead to under consumption/under provision of a good leading to failure to achieve allocative efficiency.

Asymmetric information refers to a situation in which the economic agents (e.g. consumers and producers) involved in a transaction do not have the same amount of relevant knowledge, resulting in a distortion of incentives and inefficient outcomes. Adverse selection is one outcome of asymmetric information and this leads to market failure. It describes a situation in which the uninformed side of the market must choose from an undesirable or adverse selection of goods. One situation we can see this happening is in the market for second-hand cars. The second hand car market best exhibits this. Sellers of second hand cars will have more knowledge of their cars than buyers. This includes any engine faults or other car issues. However, they are likely to withhold this information from buyers in order to sell their cars off at a higher price. Buyers are aware of this and thus offer a lower price for second hand cars. However, sellers of good quality second hand cars will not want to sell their cars at such a low price. This eventually results in sellers of high quality second hand cars leaving the market, resulting in only low quality second hand cars being available for sale, ultimately causing market failure.

TS3: Asymmetric information leads to partial market failure as it can lead to the moral hazard problem which leads consumers to overconsume goods that may have some risk of harm or underconsume goods that can minimise potential losses, thus leading to allocative inefficiency.

Moral hazard occurs when one party has unequal information about the behaviour of the other party after the transaction has taken place. A common example would be in the case of fire insurance. The insurance company offers the insurance policy to a homeowner based on the expected risk of the house catching fire and the potential losses that may result. The asymmetry arises when the homeowner's behaviour changes after he has purchased that insurance policy. Since the homeowner no longer bears the cost incurred of any fire damage, he is likely to underconsume any goods that serve as precaution to fires. An example of this would be that the homeowner is not likely to purchase enough fire alarms or fire extinguishers as he no longer has to bear the cost of the house catching fire and thus has no incentive to prevent those fires. At the same time, the homeowner may then overconsume certain risky goods. An example would be that the homeowner may now purchase electronic appliances that do not have sufficient fire safety standards or purchase furniture that can pose potential fire hazards. As such, the fact that the insured party no longer has to take on the costs involved with their house catching fire leads them to underconsume precautionary goods and overconsume risky goods. This leads to allocative inefficiency and the market fails.

Level	Marks	Description
L3	8-10	• **An answer that explains both types of information failure** • **Answer uses appropriate economic theory and diagrams to show WHY the market fails and the corresponding loss of welfare** • **Strong answers should be applied to appropriate contexts**
L2	5-7	• **One sided answer that only explains one type of information failure** • **OR answer that addresses both types of information failure but explanation is lacking in detail/rigour with regards to economic theory** • **OR answer is explained within a particular context without any supporting use of economic theory terms** • **Answer should be able to express how the market has failed (under OR over consumption)**
L1	1-4	• **Answer is generally descriptive with little or no economic analysis** • **Able to identify / define the concepts of imperfect info or asymmetric info** • **Able to express the idea that the market will produce a quantity that does not maximise social welfare**

(b)

Intro:

- Reiterate view that market failure justifies government intervention to maximise social welfare
- Direction statement: Government intervention can often improve the efficiency of resource allocation when addressing market failure due to information failure. However, it is not always desirable for the government to do so considering the trade-offs involved in implementing the policies and the possibility that markets may find their own more efficient solutions.

TS1: Government intervention can address market failure due to imperfect information. Policies: subsidies/taxes; regulations; public campaigns

One way that governments can intervene to address imperfect information is through the use of public campaigns to correct this misperception. Governments can fund the running of advertising campaigns that educate the general population on the dangers of consuming too much sugar. At the same time, the government can complement this with the use of regulation such as labelling. The government can implement a rule that drinks with high sugar content must be labelled with a warning or that drinks with healthy amounts of sugar can be given a label that identifies them as healthier alternatives. This can help change the perception and the tastes and preferences of the consumers. When consumers understand the full costs involved in drinking sugary drinks and are able to easily identify them, this would lead them to demand less of those sugary drinks and thus address the overconsumption.

Evaluation:

However, the effectiveness of advertising campaigns is not always certain. It can depend strongly on the government's ability to put across the message in a convincing manner. If they are unable to do so, it is not likely to persuade people to consume less. At the same time, sugary drinks can prove to be habit-forming to some extent, thus causing the tastes and preferences for the good to be very strong and hard to change. The running of these campaigns involves expenditure on the part of the government with regards to producing educational material. This may prove to be a strain on the government's budget thus incurring opportunity cost in the form of less funding for other projects. How desirable this form of intervention is depends largely on how effective it is in changing people's mind-sets compared to the costs incurred.

With regards to regulation, these regulations can cause firms to incur additional costs and thus may deter potential investors from investing in the country due to these restrictive rules. This can have a negative impact on the macroeconomic growth of a country if it adversely affects the level on investment. Thus such interventions may not be desirable if the welfare gained in correcting the market failure is less than the welfare loss due to being less attractive to investors.

TS2: Government intervention can address market failure due to adverse selection. Policy: Lemon law

Governments can address adverse selection through the implementation of a "lemon law". Such a law would allow consumers to be refunded in the case where they unknowingly purchase a faulty or low-quality product while thinking they were purchasing a high-quality one. When such a law has been implemented, consumers are now willing to pay a price as if they are purchasing a high-quality car even when they are unsure. This is because even if they unknowingly purchase a low-quality car, they would be able to get their money back and thus do not incur a loss of welfare. This would ensure that prices are kept high enough that the sellers of high-quality cars do not exit the market and thus preventing the problem of adverse selection.

Evaluation:

One possible consideration when using this policy is that the lemon law may not always be well understood. Some consumers may misunderstand this to be like a warranty and thus be careless with the second-hand cars they buy and trying to claim a refund for damages that they cause themselves. This causes a situation of moral hazard if consumers successfully abuse the lemon law in this way as consumers would no longer bear the cost of their reckless behaviour. This abuse could lead to sellers of second-hand cars to be reluctant to sell their cars as they are wary of being taken advantage of by unscrupulous buyers. In such a situation, the government intervention is undesirable as it could potentially collapse the market for second-hand cars. Thus the desirability of this intervention depends heavily on the government's ability to successfully implement it and monitor for abuse.

TS3: Government intervention can address market failure due to adverse selection. Policy: regulations / screening

Governments can address adverse selection in the second-hand market through imposing rules regarding screening and signalling. A possible policy that could be implemented is making it mandatory of potential sellers to go for a vehicle inspection first before they are allowed to sell their cars. The certificate of inspection then serves as a signal to the potential buyers that correct the asymmetric information, allowing the buyers to know whether the quality of the car is high-quality or low-quality. Buyers are then able to offer prices according to what quality of car they are receiving, eliminating the problem of adverse selection.

Evaluation:

However it is not always desirable that the government intervene. It is possible for the market to implement this solution themselves. Since the sellers of high-quality cars and the buyers of high-quality cars both gain welfare in the transaction of high-quality cars, there is sufficient incentive for the sellers to incur extra costs in order to signal the quality of their cars to potential buyers. Thus it is not necessary for government to implement such a law as the sellers can engage in their own solution. It is more desirable for the market to find their own solution to this as it will reduce the strain on government resources that would be involved in the enforcement and monitoring of this laws.

Level	Marks	Description
L3	**8-10**	- **An answer that explains at least two government measures in detail, addressing both sources of market failure** - **Answer must include an analysis of the strengths / weaknesses of the measures**
L2	**5-7**	- **An answer that explains at least one government measure in detail** - **OR two government measures adequately done** - **If only one intervention for one source, cap at 5m**
L1	**1-4**	- **A generally descriptive answer lacking in economic analysis** - **Limited explanation of different government measures to deal with the market failure**

Level	Marks	Description
E3	**4-5**	- **Expresses a conclusion on whether government intervention is desirable** - **Articulates clear criteria on how to judge when intervention is desirable vs when it is not desirable**
E2	**2-3**	- **Expresses a conclusion on whether government intervention is desirable** - **Attempts to justify the conclusion but answer is lacking in rigour or application to context**
E1	**1**	- **Expresses an unjustified conclusion on whether government intervention is desirable**