Q1.
(a) Voluntary Unemployment: When a person is unemployed by choice, either because the current wage is lower than her ‘reservation wage’ or because she is searching for a better job.
(b) Statistical discrimination: When employers use observable traits like race, gender etc. as proxy for average differences across groups of unobservable qualities, like ability for example.
(c) Reservation wage: The minimum wage at which people are willing to work, depends on individual preferences.
(d) Principal-agent problem: A common problem arising out of ‘asymmetric information’ between the principal and the agent. The principal hires the agent to perform a certain task, however has no way to verify whether the agent actually performs his job or not. Then there is an incentive for the agent not to perform his job given that there is no way he can be caught.

Q2.
An increase in non-earned income leads to a parallel shift in the budget line i.e. there is an income effect only and no substitution effect (since wages do not change the slope of the budget line does not change, therefore the tradeoff between consumption and leisure stays the same). Assuming both leisure and consumption are normal goods, this should lead to an increase in both as shown below. Therefore labor supply should fall as non-earned income (Y) rises.

Old labor supply at this wage was 24-H\(^1\), new labor supply is 24-H\(^2\).
Q3.

Assume that there are two groups of people, let us call them G1 and G2. Employers discriminate against the second group by not hiring them at regular wages, they are willing to pay them wages $w^{G2}$, which is strictly lower than $w^{G1}$. However the two groups are equally productive in the same line of work i.e. they have the same marginal productivity. Note that MRP or marginal revenue product is equal to $MR \times MP$, which implies that the MRP is the same for the two groups.

This creates a profit opportunity since any employer may hire only people from the second group and pay them the lower wage, however they are equally productive, the MRP remains the same, therefore the firm makes additional profits, as shown below.

\[ w^{G1} \]
\[ MRP \]
\[ w^{G2} \]
\[ L^* \]
\[ L^{**} \]
\[ L \]

Note that by definition MRP is the amount of money the firm makes by hiring an additional worker. Therefore the area under the MRP curve is the total revenue of the firm. The rectangle defined by the optimal choice of labor $L^*$ times the wage is the total wage bill. Thus the difference between the two is profits + fixed costs (here capital is fixed and its cost counts as a fixed cost). Assuming the firm was making a positive or zero profits at $L^*$, it now makes an additional profit at $L^{**}$. The shaded region shows this additional profits (compared to a firm hiring only workers from group G1). This is the extreme case, however the firm hiring only laborers from G2 will always make more money compared to firms hiring a combination of both types of workers as it’s wage bill is smaller if for nothing else.

It is possible that the more profitable firms (who hire people only from the second group) can compete the less profitable firms out of the market. However as more firms take advantage of the additional profit opportunities by hiring more laborers from the second group they will bid up wages until wages for the two groups of workers are equalized. Although possible this may not always happen due to a) social pressures, the employer who does hires only people from the second group for additional profits may be socially ostracized, and b) the two groups may not operate very well together.
Q4.

The following figure shows the employment decision of a monopsonistic employer and what happens when supply of labor increases.

Note a monopsonistic employer equates the marginal cost of labor (and not the wage) to the marginal revenue product of labor, to find out how much labor to hire, then pays them the wage at which they are willing to work (move downward from the intersection of MCL and MRP to the supply curve to find wage). From the figure we can see that as labor supply increases wages fall and the number of laborers hired increases.

Q5.

The borrower provides collateral when he gives the title for some asset that he owns to the lender, so that if the loan is not repaid the lender can sell the asset and get his money back. Assume that there are two groups of people a) those who are willing and able to pay back the loan and, b) those who are unwilling or unable to pay back the loan because they are heavily in debt. In the absence of collateral (i.e. it is were illegal to charge collateral), there is ‘adverse selection’ as initially there is a fixed proportion of bad debts (loans to the second group), the lender internalizes this cost by raising interest rates, now a lot of the good borrowers drop out of the market and more of those who know that they are not paying back the loan anyway and do not care about the interest rate borrow money. This leads to a further rise in interest rates as the proportion of bad debts increases for the lender. This process may continue until all borrowers are bad ones since interest rates are so high.

Example: In many developing countries, most banks are owned by the government and in the past they did not require collateral for agricultural loans, this resulted in a large proportion of bad debts and many bankruptcies. Interest rates in the informal sector (moneylender) are extremely high for the same reason.

However, if the borrower has to provide collateral then they self-select into groups such that only those who are willing and able to pay back the loan actually borrow money. Bad borrowers no more take the loan since they know that if they fail to return the money they will lose their assets.
Q6.

‘Separation of ownership and control’ creates a principal-agent problem of arising from asymmetric information. The stockholders are the true owners of the company (principal), they hire the management (agent) to run the company and maximize profits. The management has no incentive to do so as there is no way for the stockholders to verify in case the returns (dividends) on their stocks are bad whether the management was working hard and had a stream of bad luck, or they were taking vacations or simply taking bad decisions. Similarly the manager may be willing to take more risk and invest in riskier assets than the stockholders since it is not his money anyway.

One way to minimize this problem for stockholders is to have ‘incentive contracts’ such that the manager’s compensation is linked to the performance of the company so that he has a stake in the company doing well. Examples include stock options, bonus packages and so on. Given that managers are risk averse the incentive contracts generally include no penalty for the manager if the company does badly but offers compensation if it does well. This is necessarily an imperfect contract, however given that managers are risk averse and may not be willing to work if they were penalized for bad outcomes, this is the best solution to this problem.