Modern Theory of Wages

**Question:** State and explain the modern demand and supply theory of wages.

Modern theory of wages regards wages as a price of labour. A labour sells his services, which is utilized as a factor in the process of production. As we know, prices of all commodities are determined by their usual supply and demand in the market. According to this approach also wages are determined by the interaction of market forces of demand and supply of labour. To further understand this theory we need to explain the Demand and Supply of labour and the nature of their curves.

**Demand for Labour:**
The demand for labour comes from the entrepreneurs as it is used for the production of goods and services. Thus, the demand for labour depends upon the productivity of labour i.e., higher the productivity of labour, the greater will be its demand from employers. Thus, demand for labour depends upon the marginal productivity of labour; since the marginal productivity curve of labour slopes downwards after a stage, the demand curve of labour will also slope downward. This can be shown with the help of Fig.1 below:

![Figure 1: Showing Demand Curve of Labour for an Industry](image-url)
In Fig. 1 number of labour has been measured on OX-axis and the wage rate on Y-axis. DD is the industry’s demand curve. It slopes downward from left to right indicating that when wages are low, demand for labour increases and when the wage rate tends to increase, demand for labour decreases. Thus, there is inverse relationship between wage rate and demand for labour.

Factors Affecting the Demand for Labour:

1. Technological Changes:
Technological changes influence the marginal productivity of labour. As with better tools and technology marginal productivity of labour increases and vice-versa. Therefore, technological change will effect marginal productivity of labour.

2. Derived Demand:
Demand for labour is a derived demand. It means that demand for labour depends upon the demand for goods and services which it produces. If at any given time the demand for a particular commodity produced by the labour is high, it is natural that the demand for labour shall also be high. Hence, the greater is the consumer demand for the product, the higher will be the demand for the labour to produce that commodity.

3. Proportion of Labour:
The demand for labour also depends upon the proportion in which labour is mixed with other factors of production. When a small amount of labour is engaged in the production of a product, the demand for that type of labour is inelastic. For instance, the demand for labour for operating automatic machines or latest machines in large scale industries is inelastic.

4. Cost of other Factors:
The demand for labour depends upon the cost of other factors of production which can be used as substitute for labour. If substitute factors are costly, the entrepreneur will naturally substitute labour in place of costly factor. In such a case the demand for labour will be high. If the prices of substitute factors which can be used in place of labour have declined, the substitute factor will be used in place of labour. Hence, the demand for labour will decline.

Supply of Labour:
Supply of labour tells us that number of labourers who are ready to sell their labour at the various wage rates. A labour would sell his services for at least that much of wage in which he can maintain himself and his family. Supply of labour in an economy depends upon both economic as well as non-economic factors. Economic factors influencing the supply of labour comprises of existing employment, desire to increase monetary income,
bargaining power of the labourers, size of population, income distribution etc. while the non-economic factors consist of family affection, social conditions, domestic environment etc.

Psychological factors also affect the supply of labour. It is only due to the psychological factors that a worker decides how much time he should devote to work and how much to leisure. Moreover, the supply of labour also depends on the elasticity.

The supply of labour for a firm is perfectly elastic, so, the firm at current wages can employ as many workers as it wishes. On the contrary the nature of supply of labour for an industry is not infinitely elastic. Thus, it cannot employ more and more labourers at the current wage rate. The industry can do so by attracting labourers from other industries by offering them higher wages. Following diagram clears this point more vividly.

In Fig.2, Quantity of Labour selling their services (in hours supplied to an industry) has been taken on X-axis and Wage Rate on Y-axis. SS is the backward bending supply curve. OW1 relates to the initial wage rate. When the wage rate is OW1, the labour supplied or hours of labour supplied are OL1. The maximum supply of labour or working
labour hours is OL3 at wage rate OW2. Now suppose the wage rate increases to OW3, in that case quantity of labour supplied or hours of labour services supplied will decrease to OL2. Thus, we may conclude that like other factors of production, supply curve of labour is also upward sloping from left to right.

**Factors Affecting Supply:**

1. **Size of Population:** The supply of labour depends upon several factors. In the first place, the supply at any given time depends upon the number of labourers in the country. This, in itself is a result of the size of population and that proportion of this population which is called working population. The size of population is determined by the difference in birth rate and the death rate. The proportion of total population which is called working population depends upon occupational distribution, level of technical advancement, conservation and mobility of labour.

2. **Efficiency of Labour:** The supply of labour does not merely depend upon the size of population. It also depends upon the efficiency of labour. Efficiency depends upon several factors like hours of working, service and working conditions, wage rates, economic incentives and other conditions that have a bearing upon the working ability of labour.

3. **Mobility of Labour:** The supply of labour also depends upon the mobility of labour. If the labour is less mobile either because the means of transport are not developed or there is conservatism among the labourers, or because there are climatic, language or traditional hindrances, then it follows that supply of labour shall be highly limited.

4. **Work Leisure Ratio:** Supply of labour is influenced very much by this element. Changes in supply of labour produces two types of effects:

   a) **Substitution effect:** At first when the wages increases then labour instead of taking leisure wants to work more. This is known as substitution effect.

   b) **Income effect:** The second impact of increase in wages is increase in their income but after a point instead of working more for earning more they prefer to take leisure. This is known as income effect.

The substitution effect of increase in wage rate is always positive i.e. It motivates to work more whereas income effect of increase in wage rate is negative as it demotivates to work more. Hence, the supply curve of labour increases with the increase in wage rate but after a point with increase in wage rate it slopes backward as shown in the above figure-2. As it is shown in the fig.2 till the point B, with every increase in wage rate the supply of labour increases due to substitution effect. But after the point B with increase in wage rate supply of labour decreases due to income effect. In nutshell we can say at
lower level of income when the wage rate increases it makes man more laborious but higher income drives him for more leisure then work.

**Intersection of the Demand and Supply curve and Wage determination:**

In any industry wage is determined at that point where the demand curve for labour cuts the supply curve of labour. At this point demand for labour is equal to supply of labour as shown in the figure-3 below:

In the figure at OW2 wage rate supply and demand of labour are equal where the supply and demand curve of labour intercept each other at point E, so the wage is determined at this point. However, when the wage rate decreases to OW1 then the demand of labour W1A is less than the supply of labour W1B. This will lead to labour shortage which will force wage rate to increase.

On the other hand when the wage rate increases to OW3 then supply of labour W3C is greater than demand of labour W3T. This will lead to surplus availability of labour which will force the wage rate to decrease. Hence, it is only the OW2 wage rate which is the equilibrium wage rate prevalent in the wage market. In the equilibrium state, wage rate always tends to be equal to the marginal productivity of labour, though, in practical life it may be more or less than the marginal productivity.
Wage Determination by an Individual Firm under Perfect Competition OR Relationship between Wages and Marginal Productivity:

As we know, that a firm under perfect competition accepts the price fixed by the industry. Similarly, a firm will accept the wage rate fixed by the industry as a firm utilises only a small portion of total supply of labour so it is not in a position to influence the wage rate. Therefore, the wage line of a firm is a horizontal straight line or the average wage (AW) of a firm = the marginal wage of the firm (MW) as shown in the Figure- 4 below:

In the above diagram, OW is the wage rate fixed by the industry which is accepted by all the firms. A firm is in equilibrium (and earns maximum profit) at the point E1 in diagram, where its marginal revenue product (MRP) is equal to its marginal cost or marginal wage (MW). Hence, at equilibrium: Wage=AW=MW=MRP. This is an indispensible condition of equilibrium of a firm. Here, at point E, the firm pays OW wages and employs OL quantity of labour.

Thus, we may conclude by saying that Modern Demand and Supply theory of wages is a more comprehensive theory than the classical theory of wages as it considers both the demand and supply of labour for determination of wages.