Question No. 56

What is the criticism on Maris Model of growth? (3 Marks)

CRITICISM OF MARRIS MODEL

- Marris assumes cost structure and price to be given. Therefore, he assumes that profit is given which is not true. In fact, price determination has been the major point of contention in the theory of firms whereas Marris has ignored this aspect completely. This is one of the serious drawback.
- Most industries are oligopolistic and hence businesses are interdependent. Marris ignores this interdependence among firms' decisions. This implies that product differentiation goes unnoticed.
- He fails to explain oligopolistic interdependence in non collusive firms. His theory, therefore, has limited applicability.

Question No. 57

Differentiate and discuss Risk and Uncertainty? (3 Marks)

RISK refers to a situation in which there is more than one possible outcome to a decision and the probability of each specific outcome is known or can be estimated. Thus, risk requires that the decision maker knows all the possible outcomes of the decision and have some idea of the probability of each outcome's occurrence.

UNCERTAINTY is the case when there is more than one possible outcome to a decision and where the probability of each specific outcome occurring is not known or even meaningful. This may be due to insufficient past information or instability in the structure of the variables. In extreme forms of uncertainty not even the outcomes themselves are known

Question No. 59

What are the Assumptions of Neo-Classical Theory? (5 Marks)

1. The traditional theory of the firm assumes a single owner-entrepreneur. There is no separation between ownership and management. The owner-entrepreneur takes all the decisions. All organizational problems are assumed resolved by payments to the factors employed by the firm. The entrepreneur is furthermore assumed to have unlimited information, unlimited time at his

disposal, and unlimited ability to compare all the possible alternative actions and choose the one that maximizes his profit. This behavior is described by postulating that the entrepreneur acts with global rationality. There is no time, information or other constraints in achieving the single goal of profit maximization.

2. The firm has a single goal, that of profit maximization. The firm is a profit maximize. It is assumed to make as much profit as possible. This means that model is an **optimizing' model**. The firm attempts to achieve the best possible performance, rather than simply seeking "feasible" performance which meets some set of minimum criteria. In most situations these are consistent with each other. Shareholder wealth is maximized by selecting the most profitable set of plant and equipment and then operating it in the most profitable way. BUT THERE MAY BE EXCEPTIONS - making maximum short term profit might cause entry of the new firms or government intervention.
3. This goal is attained by application of the marginalist principle. It assumes perfect certainty. Cost and demand conditions are perfectly known.

Question No. 60

Why decision making is complicated in oligopoly as compared to other market structures? Discuss? (5 Marks)

Because in oligopoly we donot know the action of revival, and take counter move without know the strategy of opponent so risk factor is very high making the decision under oligopoly as compare to other.

Managerial decision making is much more complex under oligopoly than under any other forms of market structure. For example, if firm A and firm B sell differentiated products. How does the quantity demanded for firm A's product change when firm
A change its price? The effect of a price reduction on the quantity demanded of firm A's product depends upon whether its rival firm B responds by cutting its prices too. Similarly the effect of a price increase on the quantity demanded of firm A's product depends upon whether its rival firm B responds by raising its prices too. The gist of the above discussion is that:

Main Reason is Strategic interdependence: the rival firms aren't in complete control of their own destiny!

Question: How Game Theory can be beneficial in Risk Analysis 5 Marks

In an uncertain economic environment, value maximization is achieved using the risk-adjusted valuation models, decision trees and computer simulation. Under certain circumstances, however, when extreme uncertainty exists, game theory decision criteria may be appropriate.
Uncertainty is defined as the case where there is more than one possible outcome to a decision and the probability of each specific outcome occurring is not known or even meaningful. As a result, decision making under uncertainty is necessarily subjective, some specific decision rules are available, however, if the decision maker can identify the possible states of nature and estimate the payoff for each strategy. Two specific decision rules applicable under uncertainty are the maximin criterion and the minimax regret criterion.

How Government can exercise Monopoly Give Reasons 5 Marks

A monopoly may be established by a government franchise. In this case, the firm is set up as the sole producer and distributor of a product or service but is subjected to governmental regulation. The best example of a monopoly established by government franchise is the post office, railways, airlines. Local governments also require a license to operate many types of businesses, such as taxis, broadcasting, TV channels, medical units, and private health care clinics.

One of the major sources of monopoly is that the firm might own a **patent**. The ownership of a patent or copyright that precludes other firms from using a particular production process or producing the same product. Patents are granted by the government for a period of 17 years as an incentive to inventors in the US while in Pakistan it is granted for a period of 20 years.

In **natural monopoly** governments usually allow a single firm to operate in the market but regulate the price of the services provided, so as to allow the firm only a normal return on investment.

How Behavioral Theories contribute. 5 Marks

BEHAVIORALTHEORY: **CONTRIBUTIONS**
The behavioral theory has contributed to the development of the theory of the firm in several respects. Its main contributions are:
• Insight into the process of goal-formation and the internal resource allocation: an aspect neglected in traditional theory.

• Cyert and March's definition of 'slack' shows that this concept is equivalent to the 'economic rent' of factors of production of the traditional theory of the firm. The contribution of the behavioral school lies in the analysis of the stabilizing role of 'slack' on the activity of the firm.

FACTORS AFFECTING THE PRICE ELASTICITY OF DEMAND 3 Marks

There are three major influences on price elasticity:
(1) the extent to which a good is considered to be a necessity;
(2) the availability of substitute goods to satisfy a given need; and
(3) The proportion of income spent on the product.

Q: Describe Satisficing Behavior. 5 Marks

FIRM'S GOALS: THE SATISFICING MODEL

- **Production Goal:** A goal that output must lie within a certain satisfactory range.
- **Inventory Goal:** Aims at maintaining a balanced inventory of both raw materials and finished goods. A balanced stock of both raw materials and finished goods ensures continuity of production and supply of goods to the customers and also keeps the input suppliers satisfied.
- **Sales Goal:** A goal that there must be a satisfactory level of sales however defined.
- **Market share Goal:** A goal indicating a satisfactory size of market share as a measure of comparative success as well as of the growth of the firm.
- **Profit Goal:** is set by the top management so as to satisfy the demands of share holders and the expectations of bankers and other finance institutions; and also to create funds with which they can accomplish their own goals and projects, or satisfy the other goals of the firm.

The number of goals of the firm may be increased, but the decision-making process becomes increasingly complex. The efficiency of decision-making decreases as the number of goals increases.

Q: Difference between cost of capital and cost of debt? 5 Marks

COST OF CAPITAL

The correct discount rate (cost of capital) for each investment project is simply the **marginal cost of capital** for that project. However, determination of the correct discount rate for individual projects is not an easy task.

THE COST OF DEBT

The cost of debt is easier to explain. It is simply the interest rate that must be paid on the debt.
The cost of debt is the return that lenders require to lend their funds to the firm. Since the interest payments made by the firm on borrowed funds are deductible

from the firm's taxable income, the after-tax cost of borrowed funds to the firm (k_d) is given by the interest paid (r) multiplied by 1 minus the firm's marginal tax rate, t. That is,

$k_d = r(1 - t)$

For example, if the firm borrows at a 12.5 percent interest rate and faces a 40 percent marginal tax rate on its taxable income, the after-tax cost of debt capital to the firm is

$k_d = 12.5\%(1- 0.40) = 7.5\%$

Q: Criticism on Williamson's managerial utility? 5 marks

CRITICISM OF WİLLİAMSON'S MANAGERİAL UTİLİTY MAXİMİZATİO MODEL

1. The available evidence is not enough for the verification of the theory
2. Williamson's model fails to deal with the core problem of oligopolistic interdependence of strong oligopolistic rivalry. Williamson's model hold is said to hold only where rivalry is not strong. When rivalry is strong a profit-maximizing model is more appropriate.

Q: Write down the elements of Game theory? 5 Marks

GAME THEORY: ELEMENTS

- **Strategies:** A Strategy is a specific course of action with clearly defined values for policy variables. A strategy is dominant if it is optimal regardless of what the other player does.
- **Payoff** of a strategy is the "net gain" it will bring to the firm for any given counter-strategy of the rival firm
- **Payoff matrix** is the table giving the payoffs from all the strategies open to the firm and the rivals' responses
- **Policy Variables:** Price, Quantity, Quality, advertising Research and Development
Expenditure, Changes in the number of products.
- **Players:** players are interdependent Players are the decision-makers (the managers of oligopolist firms). Other players' actions are not entirely predictable

Q: Solve the regression equation St=105.3(1.464)2 for the base year 1991 and find for 2011 and 2015? 5 marks

$St=105.3(1.464)_2$

Year	t	=105.3*(1.464)^t	Year	t	
1991	**2**	**225.69**	2004	15	32029.08
1992	3	330.41	2005	16	46890.58
1993	4	483.72	2006	17	68647.81
1994	5	708.16	2007	18	100500.39
1995	6	1036.75	2008	19	147132.57
1996	7	1517.80	2009	20	215402.09
1997	8	2222.07	2010	21	315348.65
1998	9	3253.10	**2011**	**22**	**461670.43**
1999	10	4762.55	2012	23	675885.51
2000	11	6972.37	2013	24	989496.39
2001	12	10207.54	2014	25	1448622.71
2002	13	14943.85	**2015**	**26**	**2120783.65**
2003	14	21877.79			

Q: Describe the flaws of customer Clinic Approach?

3 Marks

Consumer clinics also face serious shortcomings, however. First, the results are questionable because participants know that they are in an artificial situation and that they are being observed. Therefore, they are not likely to act normally, as they would in a real market situation.

Q: Difference between replacement and cost reduction investment?

3 Marks

In general, firms classify investment projects into the following categories:

1. Replacement: Investments to replace equipment that is worn out in the production process.

2. Cost reduction. Investments to replace working but obsolete equipment with new and more efficient equipment, expenditures for training programs aimed at reducing labor costs, and expenditures to move production facilities to areas where labor and other inputs are cheaper.

3. Output expansion of traditional products and markets: Investments to expand production facilities in response to increased demand for the firm's traditional products in traditional or existing markets.

4. Expansion into new products and/or markets: Investments to develop, produce, and sell new products and/or enter new markets.
5. Government regulation. Investments made to fulfill government regulations. These include investment projects required to meet government health and safety regulations, pollution control, and to satisfy other legal requirements

Q: Describe the Marri's model?
3 Marks

MARRIS'S MODEL OF MAXIMIZATION OF GROWTH RATE (1964)
The goal of the firm in Marris's model is the maximization of the balanced rate of growth of the firm, that is, the maximization of the rate of growth of demand for the products of the firm, and of the growth of its capital supply:
Maximize $g = g_D = g_C$
Where g = balanced growth rate
g_D = growth of demand for the products of the firm
g_C = growth of the supply of capital

In pursuing this maximum balanced growth rate the firm has two constraints. Firstly, a constraint set by the available managerial team and its skills. Secondly, a financial constraint set by the desire of managers to achieve maximum job security. The rationalization of this goal is that by jointly maximizing the rate of growth of demand and capital the managers achieve maximization of their own utility as well as of the utility of the owners / shareholders.

Question: 01: Consider the following information of the firm:

Total fixed cost = Rs. 350 **Price level = Rs. 20**

Average variable cost = Rs. 10 **Target profit level = Rs. 250**

From this information, calculate the breakeven level of output and target level of output. (Marks: 2.5+2.5)

TR = P * Q
TC = TFC + (AVC) (Q)
Setting total revenue equal to total costs and substituting Q_B (the breakeven output) for Q, we have
TR = TC

$(P)(Q_B) = TFC + (AVC)(Q_B)$

Solving Equation for the breakeven output, **Q_B**, we get

$(P)(Q_B) - (AVC)(Q_B) = TFC$

$(Q_B)(P - AVC) = TFC$

$$Q_B = \frac{TFC}{P - AVC}$$

For example, with TFC = 350, P = 20, and AVC= 10,

$$QB = \frac{350}{20 - 10}$$

$Q_B = 350/10$

$Q_B = 35$

We are given targeted profit

Cost-volume-profit or breakeven analysis can be used in determining the target output (Q_T) at which a target profit (π_T) can be achieved. To do so, we simply add π_T to the numerator of Q_B equation and have:

$$Q_T = \frac{TFC + \pi_T}{P - AVC}$$

$$Q_T = \frac{350 + 250}{20 - 10} = \frac{600}{10} = 60$$

Question: 02

You have given the following linear programming problem:

Maximize Profit (π) = Rs. 20X + Rs. 8Y

Subject to the following constraints:

3X + 1Y + SA = 40

2X + 2Y + SB = 25

4Y + SC = 30

The corner points are given as:

Corner points X Y

From all this information, find the profit (Rs.) level at each corner point. (Marks: 5)

A 0 0	20(0)+8(0) = 0
B 7 0	20(7)+8(0) = 140
C 5 3	20(5)+8(3) =100+24=124
D 2 7	20(2)+8(7) = 40+56=96
E 0 7	20(0)+8(7) = 56

Question: 03: Given the total revenue and total cost functions:

$TR = 80Q – 0.00025Q^2$
$TC = 260,450 + 5Q +0.00035Q^2$ **3 Marks**

Find the profit maximizing level of output under monopoly

TR=TC

80Q – 0.00025Q2 = = 260,450 + 5Q +0.00035Q2
MR=MC

80-0.0005Q = 5+0.0007Q

80-5=0.0007Q+0.0005Q
75=0.0012Q

Q = 75/0.0012

Q=62500

1-Define economies of scope. Why it is important for firms?

3 Marks

ECONOMIES OF SCOPE

Cost analysis focuses not just on how much to produce but also on what combination of products to offer. By good quality of their efficiency in the production of a given product, firms often enjoy cost advantages in the production of related products.

ECONOMIES OF SCOPE CONCEPT

Economies of scope exist when the cost of joint production is less than the cost of producing multiple outputs separately. A firm will produce products that are complementary in the sense that **producing them together costs less than producing them individually.**

In fact, the economies of scope concept explain why firms typically produce multiple products. Companies establish a working relation with an ideal group of prospective customers for stocks, bonds, and other investments. When viewed as a delivery vehicle or marketing device, money market mutual funds may be one of the industry's most profitable financial product lines.

2-Differentiate between pure oligopoly and differentiated oligopoly? 3 Marks

. If the product is homogenous, it is called pure oligopoly. If the product is differentiated, it is called differentiated oligopoly.

3-What is transfer pricing? Why does the problem of transfer pricing arises? Discuss 3 Marks

Transfer Pricing: Meaning and Nature of Transfer Pricing
Transfer pricing is the pricing strategy in which a firm optimally sets the internal price at which an upstream division sells inputs to a downstream division.

The transfer pricing problem results from **the difficulty of establishing profitable relationships** among divisions of a single company when each separate business unit stands in vertical relation to the other. A vertical relation is one where the output of one division or company is the input to another. Vertical integration occurs when a single company controls various links in the production chain from basic inputs to final output.

Question # 2 - Baumol's sales maximization model was criticized on what grounds? discuss?

CRITICISM OF BAUMOL'S MODEL

• The sales-maximization hypothesis cannot be tested against competing behavioral hypotheses unless the demand and cost functions of individual firms are measured. However, such data are not disclosed by firms to researchers, and are commonly unknown to the firms.

• It has been argued that in the long run the sales-maximization and the profit maximization hypotheses yield identical solutions; because profits attain their normal level in the long-run and the minimum profit constraint will coincide with the maximum attainable ('normal') level of profit. This argument cannot be accepted without any empirical evidence to support it.

• The sales-maximization theory does not show how equilibrium in an industry, in which all firms are sales maximizers, will be attained. The relationship between the firm and the industry is not established by BaumoI.

• Baumol's hypothesis is based on the implicit assumption that the firm has market power, that is, it can have control on its price and expansion policies. The firm can take decisions without being affected by competitors' reactionss

• The assumption that the MR of advertising is positive (6TR/6A >

3-Briefly discuss the basic valuation model of firm. How this model can be adjusted for risk?

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4-Given the following total revenue and total cost function of a firm

TR = 22Q - 0.5Q2

TC = $(1/3)Q^3 - 8.5Q^2 + 50Q + 90$

Find out the marginal revenue and marginal cost

MR = 22-Q

MC = $Q^2 - 17Q + 50$

Q1. What is Expansion Path and what are the points on Expansion path? (3 Marks)

EXPANSION PATH

By connecting points of tangency between Isoquants and budget lines (*points D, E, and F*), an **expansion path** is identified that depicts optimal input combinations as the scale of production expands. For example, line ODEF in Figure (6) is the expansion path for the firm. It shows that the minimum cost of reaching Isoquants 8Q, 10Q and 14Q are $80, $100, and $140, given by the points of tangency of Isoquants and Isoquants (i.e., joining points of optimal input combinations. It also shows that with total cost of $80, $100, and $140 the maximum output that the firm can produce are 8Q, 10Q and 14Q respectively.

Question:
Deffirence between positive and negative Externaity? (3)

When actions taken by market participants create either benefits or costs that spill over to other members of society

- *Positive externalities* occur when spillover effects are beneficial to society
- *Negative externalities* occur when spillover effects are costly to society

Question:
Difference between finity repeated and infinity repeated games. (3)

Repeated Game: game is played repeatedly over a period of time.
Finitely repeated games include games that take place over fixed or uncertain period of time.

Question:
Why firm produce more than one products.

To gain the economies of scale. A firm will produce products that are complementary in the sense that producing them together costs less than producing them individually.

Not sure about this

Question:
Define capital rationing and why the practice of capital rationing is in use

Capital rationing: the practice of restricting capital expenditures to a certain amount due to:

- Rue to limits on external financing
- Management may not want to (add to equity) sell stocks in fear of losing control of the firm.

 undertaking all the projects with positive NPV may involve such rapid expansion as to strain the managerial and other resources of the firm.

Question:
Define price discrimination give example of situation of price discriminations

Price discrimination refers to the charging of different prices for different quantities of a product, at different times, to different customer groups or in different markets, when these price differences are not justified by cost differences.

Relevant examples of price discrimination are:

(1) power (i.e., electrical and gas) companies charging lower prices to residential than to commercial users;
(2) medical and legal professions charging lower fees to low-income than to high-income people;
(3) companies charging lower prices abroad than at home for a variety of products and services, ranging from books and medicines to movies;
(4) entertainment companies charging lower prices for afternoon than for evening performances of movies, theaters, and sports events;
(5) service industries charging lower prices for children and the elderly for public transportation, and airline tickets;
(6) hotels charging lower rates for seminars, workshops and conventions.

Characteristic of Firm and what is main objective of firm (5)

Every firm has objective to maximize the profit of the organization. And as you know characteristics of the firm are vary according to the structure of the firm, it means this question is incomplete, characteristics of firms vary under perfect competition, monopoly, oligopoly, and monopolistic firm.

1) Behavioral school of theory.

The main features of the Behavioural School are:

 Firms are multi-goal, multi-decision, multi-product organizational coalitions
 Imperfect knowledge and bounded rationality. Managers have imperfect knowledge.
 Managers cannot meet the aspiration levels of all stakeholders. Managers can never really know if they are maximizing profits, sales or growth (of the firm) or not

- Managers cannot maximize, instead they have to satisfice

2) Degree of price discrimination.

DEGREES OF PRICE DISCRIMINATION

There are three types of price discrimination: first, second, and third degree. By practicing any type of price discrimination, the firm can increase its total revenue and profits by capturing all or part of the consumer's surplus.
1. First degree price discrimination creates different prices for each customer (Maximum profits).
2. Second degree price discrimination gives quantity discounts.
3. Third degree price discrimination assigns different prices by customer age, gender, income, location etc

3) Cournot oligopoly model

The Cournot model postulates that firms in oligopoly markets make simultaneous and independent output decisions. In other words Cournot model assumes that oligopoly demand curves are stable because each firm treats the output of the other firm as given, and then makes its own output decision. The relationship between an oligopoly firm's profit-maximizing output level and competitor output is called the oligopoly output- reaction curve because it shows how oligopoly firms react to competitor production decisions. A firm's reaction function shows how its optimal output varies with each possible action by its rival firm.

Q1. Differentiate between Pure and Differentiated oligopoly? (3 Marks)

If the product is homogenous, it is called pure oligopoly. If the product is differentiated, it is called differentiated oligopoly.

Q2. Calculate profit Function following data given? (3 Marks)

Qd=120-15p and P=20-0.5Q

TC=50+3Q

Qd = 120 – 15 (20 – 0.5Q)

Qd = 120 – 300 + 7.5Q

Q – 7.5Q = - 180

-6.5Q = -180

Q = -180 / -6.5

Q = 27. 69

Q = 28

P = 20 – 0.5Q

= 20 – 0.5(28)

= 20 – 14

P = 6

TR = P*Q

=28 * 6

= 168

Profit = TR – TC

= 168 – (50 + 3Q)

= 168 – (50 + 84)

= 168 – 134

Profit = 34

Define Investment Opportunity Schedule and Marginal Cost of Capital? (3 Marks)

IOS shows the pattern of returns (IRR) for all potential investment projects.
Marginal cost of capital is the extra financing cost necessary to fund an additional investment project.
Optimality requires setting **IRR = MCC.**

The investment opportunity schedule (IOS) shows the pattern of returns for all of the firm's potential investment projects.
The marginal cost of capital (MCC) is the extra financing cost necessary to fund an additional investment project, expressed on a percentage basis.

Q3. Average cost/unit of the firm in 2009 was 500 and 460 in 2010. Find Learning Rate? (3 Marks)

Learning Rate = [1 – AC2/AC1] * 100

=[1-460/500] * 100
= [1-0.92]*100
=0.08*100
=8%

Q4. Write characteristics of STACKELBERG Oligopoly model? (5 Marks)

BASIC FEATURES OF STACKELBERG MODEL

- Firms produce differentiated or homogeneous products.
- There are few firms selling serving many consumers.
- A single firm (the leader) chooses an output before all other firms choose their output. The leader commits to an output before all other firms.
- All other firms (the followers) take as given the output of the leader and choose outputs that maximize profits given the leader's output.
- Barriers to entry exist.

Q6. Data was provided: (5 Marks) Probability Cash Flow

Boom	0.25	500
Normal	0.50	400
Recession	0.25	300

a.) Find Expected Value of Firm?

Boom 0.25 *500 = 125
Normal 0.50 *400 = 200
Recession 0.25 *300 =75
Expected profit from Project = 400

b.) Find Standard Deviation?

St. Dev. = **SQRT** [(500-400)*(0.25)+(400-400)(0.50)+(300-400)*(0.25)]
St. Dev. =

Question 7. Given: Z=f(l, k) + λ (c*-Wl+ rk) Find Partial Derivative of L,K, λ with respect to Z. (5 marks

As compare to example given on:
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$$L = f(Q_X, Q_Y) + \lambda(M - P_XQ_X - P_YQ_Y)$$

$$Z = f(l, k) + \lambda\,(c^* - Wl + rk)$$

To maximize L, we find the partial derivative of L with respect to Q_X, Q_Y and λ and set them equal to zero, That is the First-order conditions imply(FOC)

$$\partial L/\partial Q_X = \partial f/\partial Q_X - \lambda P_X = 0$$
$$\partial Z/\partial l = \partial f/\partial l - \lambda l = 0$$

$$\partial L/\partial Q_Y = \partial f/ \partial Q_Y - \lambda P_Y = 0$$
$$\partial Z/\partial k = \partial f/ \partial k - \lambda k = 0$$

$$\partial L/\partial \lambda = M - P_X Q_X - P_Y Q_Y = 0$$

$$\partial Z/\partial \lambda = c^* - Wl - rk = 0$$

3) How Opportunity cost is defined?

Opportunity cost is the foregone value associated with the current rather than next-best use of an asset. In other words, cost is determined by the highest-valued *opportunity* that must be foregone to allow current use.

4) What is by-product?? Give example.

A by-product is any output that is usually produced as a direct result of an increase in the production of some other output.

The cost and availability of any single by-product depends on the demand for others. By-products are also sometimes the unintended or unavoidable results of producing certain goods. For example pollution can be thought of as the necessary by-product of many production processes.

5) What are the characteristics of competitive competition? Discuss them.

PERFECT COMPETITION (NO MARKET POWER)

- Many buyers and sellers
- Buyers and sellers are price takers
- Product is homogeneous
- Very easy market entry and exit
- Non price competition not possible
- Perfect mobility of resources
- Economic agents have perfect knowledge

Examples: Stock Market, agricultural products, financial instruments, precious metals, petroleum products, prominent markets for intermediate goods and services, e.g., discount retailing, unskilled labor market.

7) How Game theory helps in risk analysis?

In an uncertain economic environment, value maximization is achieved using the risk-adjusted valuation models, decision trees and computer simulation. Under certain circumstances, however, when extreme uncertainty exists, game theory decision criteria may be appropriate.

Uncertainty is defined as the case where there is more than one possible outcome to a decision and the probability of each specific outcome occurring is not known or even meaningful. As a result, decision making under uncertainty is necessarily subjective, some specific decision rules are available, however, if the decision maker can identify the possible states of nature and estimate the payoff for each strategy. Two specific decision rules applicable under uncertainty are the maximin criterion and the minimax regret criterion.

8) what are the contributions of Behavioral theory??

BEHAVIORALTHEORY: **CONTRIBUTIONS**

The behavioral theory has contributed to the development of the theory of the firm in several respects. Its main contributions are:

- Insight into the process of goal-formation and the internal resource allocation: an aspect neglected in traditional theory.
- Cyert and March's definition of 'slack' shows that this concept is equivalent to the 'economic rent' of factors of production of the traditional theory of the firm. The contribution of the behavioral school lies in the analysis of the stabilizing role of 'slack' on the activity of the firm.

9) Last question is also mathematical. Question was given and the requirement was to calculate the explicit & implicit cost of entrepreneur.

Question: Implicit cost is opportunity cost?? Explain with Example….3marks

Implicit Cost is also opportunity cost equal to what a firm must give up in order to use factors which it neither purchases nor hires. It is the opposite of an explicit cost, which is borne directly.[1] In other words, an implicit cost is any cost that results from using an asset instead of renting, selling, or lending it. The term also applies to forgone income from choosing not to work.

Question: Homogenous productions function..... 3 marks

There are two special classes of production functions that are often analyzed. The production function Q=f(X_1,X_2) is said to be homogeneous of degree n, if given any positive constant k, f(kX_1,kX_2)=k^n f(X_1, X_2). If n>1, the function exhibits increasing returns to scale, and it exhibits decreasing returns to scale if n<1. If it is homogeneous of degree 1, it exhibits constant returns to scale.

Question: Interpret following Regression Equation...3 marks

yt = 9.5 + 3.65Xt

yt= sales quanitity Xt = advertising cost

Explaining "a" that it's an intercept point, the regression line intercept Y-axis on 9.5 and 3.65 is the slope coefficient that means , one unit increase in Xt (advertisement) will cause 3.65 increase in sales (Yt)

Question: Find Profit Function...5

P = 430 + 50Q

TC = 3000 + 45Q + 0.03Q2

Solution

P = 430 – 0.05Q

TR = P*Q = (430 – 0.05Q)* Q = 430Q – 0.05Q2

MR = ∂TR/∂Q = 430 – 0.1Q

TC = 3000 + 45Q + 0.03Q2

MC = ∂TC/∂Q = 45 + 0.06Q

The firm total profit function is:

п= TR – TC = (430 - 0.05Q) Q – 3000 – 45Q - 0.03Q2

п= -0.08 Q2 + 385Q – 3000

Setting marginal revenue = marginal cost and solving for the related output quantity gives:

MR = MC

430 – 0.1Q = 45 + 0.06Q

430 – 45 = 0.07 Q

385 / 0.07 = Q

5500 = Q

At Q = 5500

P = 430 – 0.05Q

P = 430 – 0.05 (5500)

P = 430 – 275

P = 155

п= -0.08 Q2 + 385Q – 3000

=-0.08*(5500)^2 + 385*(5500) – 3000

= -305500

There are two special classes of production functions that are often analyzed. The production function Q=f(X_1,X_2) is said to be homogeneous of degree n, if given any positive constant k, f(kX_1,kX_2)=k^n f(X_1, X_2). If n>1, the function exhibits increasing returns to scale, and it exhibits decreasing returns to scale if n<1. If it is homogeneous of degree 1, it exhibits constant returns to scale.

Question: Simultaneous games and Sequential games

Simultaneous games are games in which players make their strategy choices at the same time Sequential games are games in which players make their decisions sequentially. In sequential games, the first mover may have an advantage.

Question: DEGREES OF PRICE DISCRIMINATION

There are three types of price discrimination: first, second, and third degree. By practicing any type of price discrimination, the firm can increase its total revenue and profits by capturing all or part of the consumer's surplus.

1. First degree price discrimination creates different prices for each customer (maximum profits).
2. Second degree price discrimination gives quantity discounts.
3. Third degree price discrimination assigns different prices by customer age, gender, income, location etc.

Question: CAPITAL BUDGETING PROCESS

The term Capital refers to the funds employed to finance business; a budget is a detailed plan of projected inflows and outflows over future periods. Capital Budgeting is planning expenditures that generate cash flows expected to stretch beyond one year. Process of planning expenditures that give rise to revenues or returns over a number of years.

Question: PAYBACK PERIOD

Payback Period is the amount of time required for the firm to recover its initial cost in a project, as calculated from a *cash inflow.* In the case of an annuity, the payback period can be found by dividing the initial investment by the annual cash inflow.

Question: ECONOMIC INTERPRETATION OF λ

- A high value of λ indicates that Q could be increased substantially by relaxing the constraint
- A low value of λ indicates that there is not much to be gained by relaxing the constraint
- λ = 0 implies that the constraint is not binding

Question: ***Management was measured as a performance ranking of on the basis of 3 criteria:***

1. Output goal attainment
2. Cost over- or under -fulfillment
3. Quality level of output

Question: MEASURING RISK WITH PROBABILITY DISTRIBUTIONS

The concept of probability distributions is essential in evaluating and comparing investment projects. In general, the outcome or profit of an investment project is highest when the economy is booming and smallest when the economy is in a recession. If we multiply each possible outcome or profit of an investment by its probability of occurrence and add these products, we get the expected value or profit of the project.

Question No. 55

Differentiate between Centralized Collusion and Market Based Collusion? (3 Marks)

In contrast, the traditional collusion is better called "centralized collusion". There is a "central agent" that asks the members to act in concert with the group. Such coordination kills competition and originality, invites cheating, fighting and other detrimental activities. The payment for hiring the "central agent" further reduces the joint profit.