PRACTICAL MANUAL

Economics and Marketing

Course No. HSS-166 Credit Hrs. 3(2+1)

For B.Sc. (Horticulture) I Year (I Semester)

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2019

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College of Agriculture
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Jhansi-284003

Syllabus: Economics and marketing

Practical: Techno-economic parameters for preparation of projects. Preparation of Bankable projects for various agricultural products and its value-added products. Identification of marketing channel– Calculation of Price Spread –Identification of Market Structure –Visit to different Markets.

Name of Student ....

Roll No. ....

Batch ....

Session ....

Semester ....

Course Name : ....

Course No. : ....

Credit ....

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CERTIFICATE

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Date: Course Teacher

CONTENTS

Objective: To find out the techno-economic parameters for preparation of projects.

Projects- Projects is an investment activity where we spend capital resource to create a productive asset for realising benefits over time. Generally, "Project is an activity on which we spend money in expectation of return which lends itself to planning, financing and implementation as a unit. It also refers to specific activity, with specific starting point and specific end point to achieve a specific objective. It should be measurable in cost and return it must have priorities for area development and reach specific clientele group."

Problem: Prepare a project cycle and discuss about the different phases.

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Objective: To study Payback period

The payback period is another simple method of ranking of project. Under this method, we estimate the total time required to get back the investment on the project. The preference of a particular project is based on the lesser payback period. The payback period of the project is estimated by using following formula.

$$P = I/E$$

Where,

P is the payback period of the project in year,

I is the investment of the project in rupees

E is the annual net cash revenue in rupees.

Problem: Calculate the payback period for Mr. Shubham has Rs. 30,000 excess money and he want to invest it in either pomegranate orchard or mango orchard. The annual cash flow from the pomegranate and mango orchard is Rs. 5000 and Rs. 4000 per year respectively and productive life of the orchard is 10 years. It is assumed that annual cash flow from both orchards is constant and no investment is made in subsequent period.

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Objective: To study Net Present worth or Net Present value.

The net present worth of the cash flow stream sometimes, referred as net present value (NPV). NPV is helpful for estimation of benefit -cost ratio of the project. The selection criterion of any project depends upon the positive value of the NPW/ NPV, when discounted at the opportunity cost of the capital. This could be satisfactory done, provided there is a correct estimate of opportunity cost of capital. NPV/NPW is an absolute measure, but not relative. The NPW is worked out by the following equation.

$$NPW = P_1/(1+\iota)^{t_1} + P_2/(1+\iota)^{t_2} + P_3/(1+\iota)^{t_3} + \ldots\ldots\ldots\ldots P_n/(1+\iota)^{t_n} - C$$

Where, P= net cash flow in the year

ι = discounting rate expressed in term of per cent

t = time period

c= initial cost of the investment

Problem: Estimate the net present worth for a farmer to invest in apple orchard. The capital cost of the apple orchard is Rs. 100,000. The productive life of the apple orchard is 10 years. Farmer also needs to invest some money during the subsequent period as input cost and other expenses. Farmer starts getting income from second year and onward. The discounting rate 12 per cent. The other information is given below:

Year	Cost of inputs and other expenses (Rs.)	Gross income
1	100,000	-
2	5000	25000
3	7000	30000
4	9000	35000
5	10000	40000
6	11000	45000
7	11500	50000
8	12000	55000
9	12500	60000
10	13000	65000

Interpretation:……………………………………………………………………………………………

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Objective: To study Benefit Cost Ratio

Problem: Estimate the B-C ratio for a farmer to invest in apple orchard. The capital cost of the apple orchard is Rs. 100,000. The productive life of the apple orchard is 10 years. Farmer also needs to invest some money during the subsequent period as input cost and other expenses. Farmer starts getting income from second year and onward. The discounting rate 12 per cent. The other information is given below:

Year	Cost of inputs and other expenses (Rs.)	Gross income
1	100,000	-
2	5000	25000
3	7000	30000
4	9000	35000
5	10000	40000
6	11000	45000
7	11500	50000
8	12000	55000
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Objective: To study Incremental B-C ratio

In incremental B-C ratio, we compare the present worth of incremental cost with present worth of incremental benefit. Based on the rate, the absolute value of the incremental B-C ratio will change. While ranking the project based on the incremental B-C ratio is to choose the project having incremental B-C ratio more than one. The incremental B-C ratio is worked out by the following formula:

Incremental B-C Ratio= Present worth of incremental gross return

Present worth of incremental gross cost

Problem: Estimate the incremental B-C ratio for a farmer of the water scarce region wants to install water saving technology. Drip on his farm to irrigate tomato cultivation. The installation of drip is Rs. 100,000. The average life of drip system is 10 years. The maintenance cost of the drip is Rs. 1000 per year. The discounting rate of the drip system is 5 per cent per year. It is assumed that net income received by the farmer from the tomato cultivation under both systems would be same throughout the life of the drip system. The other information of the castor production in given below.

S. No.	Particulars	Conventional method	Drip irrigation
1	Input cost	15000	7500
2	Output		
a	Crop yield (main product) (qt/ha)	25	45
b	Crop yield (By product) (qt/ha)	12	18
c	Market price of main product (Rs./ qt)	2500	2500
d	Market price of by product (Rs./ qt)	150	150

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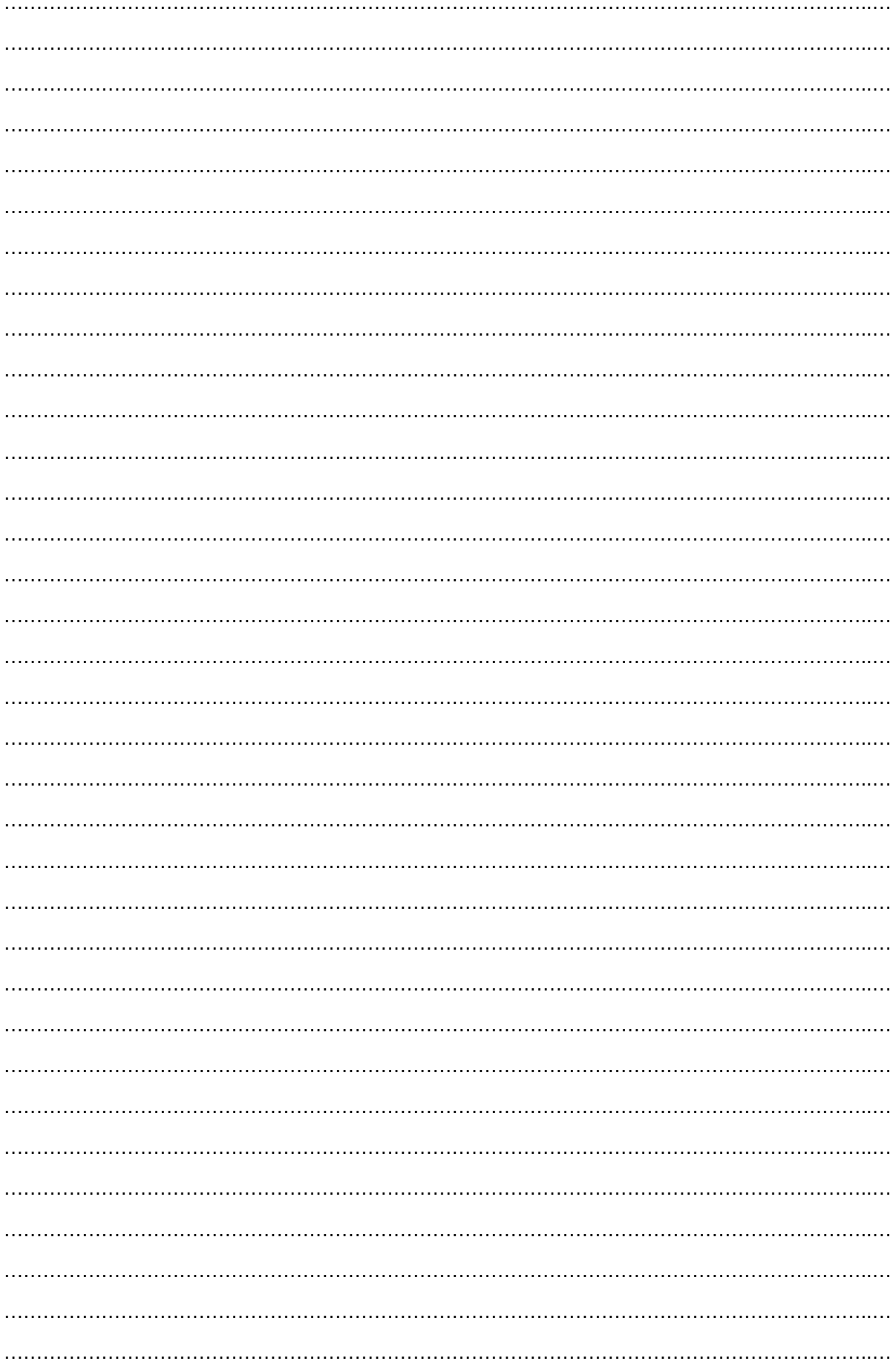
Objective: To study Internal rate of return (IRR)

The internal rate of return (IRR) is also known as marginal efficiency of capital or yield on investment. The IRR provide the knowledge of actual rate of return from different projects. In incremental rate of return, we choose discounting rate at which the present value of the net cash flow are just equal to zero or NPW=0. For the estimation or IRR we take an arbitrary discount rate and estimate the NPW. The positive NPW value of the project indicates that IRR is still higher and next assumed arbitrary IRR value must be comparatively higher than the initial level. This process is continued until NPW become negative.

IRR = [lower discounting rate] + [Difference between two discounting rate]*

[Present worth of cash flow at the lower discounting rate]

Absolute difference between present worth of cash flow at two discounting rate

Problem: Estimate the Internal rate of return for a farmer wants to invest in mango orchard. The capital cost of the mango orchard is Rs. 150,000. The productive life of the mango orchard is 10 years. Farmer also needs to invest some money during the subsequent period as input cost and other expenses. Farmer starts getting income from second year and onward. The discounting rate 10 per cent. The other information is given below:

Year	Cost of inputs and other expenses (Rs.)	Gross income (Rs.)
1	150000	-
2	5000	25000
3	7000	30000
4	9000	35000
5	10000	40000
6	11000	45000
7	11500	50000
8	12000	55000
9	12500	60000
10	13000	65000

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Objective- To study Profitability Index

Profitability index (PI) defined as the ratio of net present values of the cash flow to the initial capital requirement. Assuming that all the capital expenditure is incurred in the starting year of the project, the profitability index is estimated by the using following formula.

$$PI = \frac{NPV}{C_0} = \frac{1}{C_0} \sum_{1=0}^{n} \frac{cr}{(1+\iota)^n}$$

PI = <u>Net present value of cash flow</u>
Original amounts of investment

Here, PI is Profitability index

NPV= net present value

C_0 =Initial capital cost

Cr= total capital requirement

ι = discounting rate

n= time

Problem: Estimate the profitability index for a farmer invested Rs. 100000 in a pomegranate orchard. The productive life of the orchard is 10 years. It is assumed that all the investment is made during the first year and no investment is required during productive life of the orchard. The discount rate of the project is 20 per cent. The other information is given below:

Years	Investments (Rs.)	Cash flow
1	100000	20000
2	-	25000
3	-	30000
4	-	35000
5	-	40000
6	-	45000
7	-	50000
8	-	55000
9	-	60000
10	-	65000

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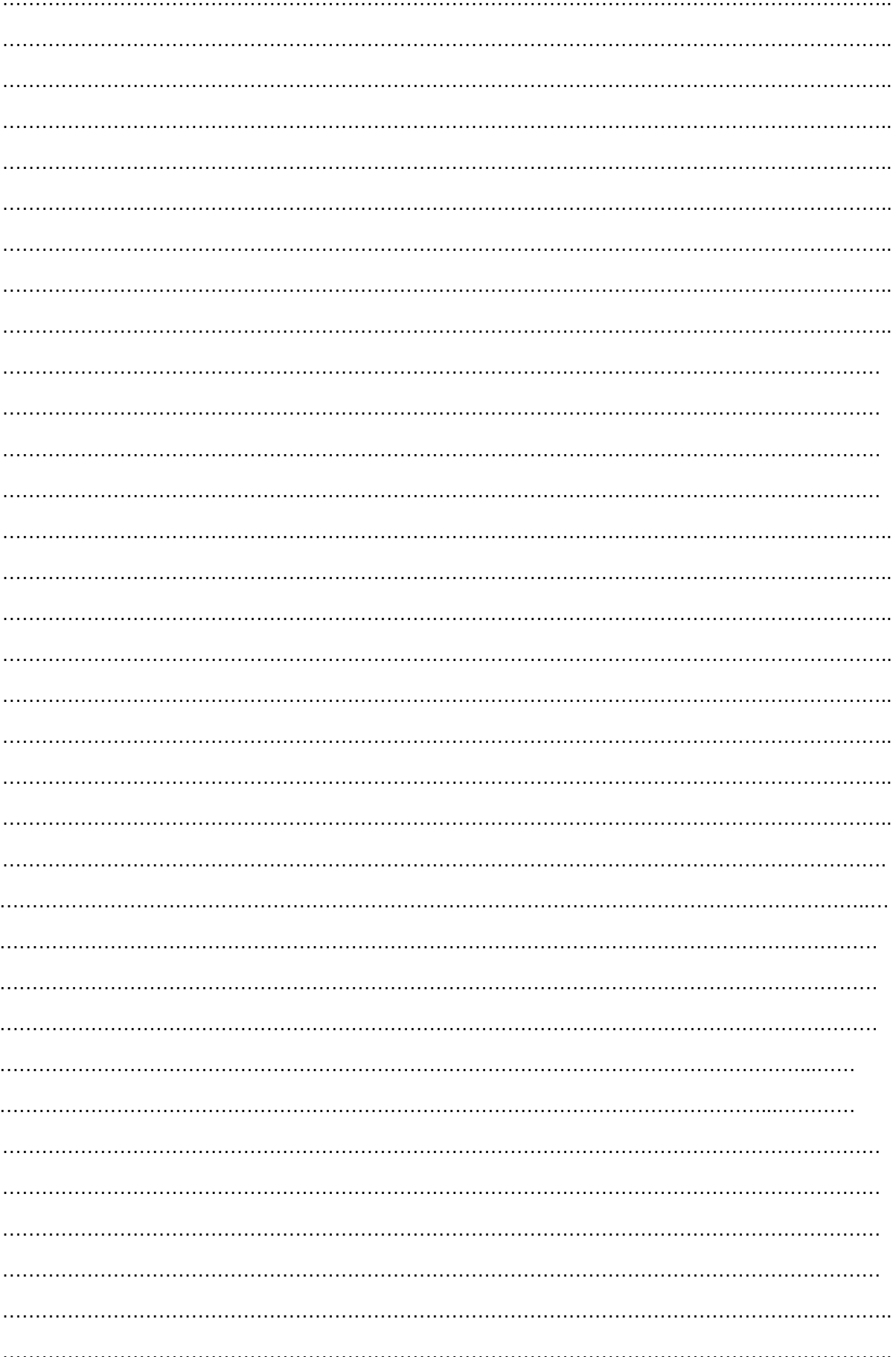
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Objective-To prepare a bankable project on apple cultivation.

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Objective- To prepare a bankable project on Grapes cultivation.

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Objective: To prepare a bankable project on any value added on horticultural product.

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Objective: To identify the marketing channels for selected horticultural commodity.

Marketing channels: Marketing channels are routes through which agricultural products move from producers to consumers. The length of the channel varies from commodity to commodity, depending on the quantity to be moved, the form of consumer demand and degree of regional specialization in production.

Problem: Collect the information involved in different marketing channels for some commodities:

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Producer:...

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Wholesaler:...

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Consumer:……………………………………………………………………………………………………
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Objective -To calculate the price spread in the given marketing channel.

Price Spread: Price spread can be defined as the difference between the price paid by the consumer and price paid by the producer. It involves various costs incurred by various intermediaries and their margins such as packaging costs, transport costs, storage costs, processing costs, capital costs etc. it has inverse relationship between price spread and marketing efficiency.

Problem: Computation of price spread of one tonnes of mango.

Marketing Channel: Producer - pre harvest contractor - local wholesaler – distant wholesaler – retailer – consumer.

Price received by the producer/price paid by pre harvest contractor	= Rs. 3542.09

Costs incurred by the pre harvest contractor:

Labour charges	= Rs. 55.88
Transportation	= Rs. 142.94
Pre-harvester's sale price /local wholesaler' purchase price	= Rs. 4329.41

Cost incurred by local wholesaler:

Unloading	= Rs. 27.05
Grading	= Rs. 17.05
Storage charges	= Rs. 5.58
Spoilage losses	= Rs. 88.0
Telephone, electricity, charges and tax	= Rs. 16.34
Local wholesaler's sale price/distant wholesaler's purchase price	= 5017.54

Costs incurred by distant wholesaler:

Loading	= Rs. 30.00
Unloading	= Rs. 25.00
Cleaning and grading	= Rs. 21.00
Transportation	= Rs. 1450.00
Packing material	= Rs. 5.00
Weighing charge	= Rs. 1.25
Storage losses	= Rs. 29.00
Spoilage losses	= Rs. 300.00
Telephone and electricity charge	= Rs. 18.00
Material used for ripening	= Rs. 5.00
Distant wholesaler's sale price / Retailer purchase price	= 8911.66

Cost incurred by retailer:

Loading	= Rs. 33.00
Unloading	= Rs. 32.06
Transportation	= Rs. 69.66
Storage charge	= Rs. 23.06
Spoilage losses	= Rs. 710.00
Tax	= Rs. 42.66
Rent for push cart	= Rs. 36.66
Retailers sale price / consumers purchase price	= Rs. 12000.00

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Objective - Computation of price spread 1 quintal of groundnut

  Marketing Channel

      Producer → Wholesaler → Decorating unit → Oil miller → Retailer → Consumer

Producers sale price per quintal	= Rs. 1119.48
Marketing cost incurred by the wholesaler	
Cost of gunny bags	= Rs. 3.75
Labour (bagging, loading and unloading)	= Rs. 6.50
Transportation charges	= Rs. 12.50
Commission charges	= Rs. 6.25
Taxes	= Rs. 2.50
Rent	= Rs. 2.25
Miscellaneous charges	= Rs. 1.50
Wholesalers sale price /purchasing price of decorating unit	= Rs. 1225.73
Cost incurred by the decorating unit	
Market fee	= Rs. 4.35
Cost of gunny bags	= Rs. 3.75
Labour charges	= Rs. 6.00
Transportation costs	= Rs. 5.00
Rent	= Rs. 4.80
Processing fee	
a) Electricity charge	= Rs. 1.75
b) Labour	= Rs. 3.00
c) Depreciation	= Rs. 0.59
d) Repairs and Maintenance	= Rs. 0.81
e) Interest on fixed capital	= Rs. 0.13
f) subtotal	= Rs. 6.28
Tax	= Rs. 0.44
Miscellaneous charges	= Rs. 1.00
Sale price of decorating unit / purchase price of oil miller	= Rs. 1297.35
Price incurred by oil miller	
Cost of bags	= Rs. 3.75
Labour charges	= Rs. 7.50
Transportation charges	= Rs. 2.00
Rent	= Rs. 6.90
Crushing charges	
Electricity	= Rs. 10.41
Labour	= Rs. 3.50
Depreciation	= Rs. 4.86
Repairs and maintenance	= Rs. 2.60
Interest on fixed capital	= Rs. 0.67
Sub total	= Rs. 22.04
Tax	= Rs. 1.36
Miscellaneous charge	= Rs. 1.00
Oil millers sale price / retailer purchase price	= Rs. 1374.40
Cost incurred by retailer	
Transportation charges	= Rs. 5.00
Labour charges	= Rs. 2.00
Container cost	= Rs. 6.00
Retailers sale price / consumer purchase price	= Rs. 1404.20

<u>Interpretation</u>……………………………………………………………………………………………………
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Objective- To identify the market structures in Jhansi district.

Market structure: Market structure refers to the nature and degree of competition in the market for goods and services. The structures of market both for goods market and for service (factor) market are determined by the nature of competition prevailing in a particular market.

Problem: Identification of prevailing market structure in around Jhansi district and write down the role and function.

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Objective: Visit to a local market to study various marketing functions.

Problem: Collect the following information and prepare a report

1. Name of the Institute:…………………………………………………………………………………

2. Location……………………………………………………………………………………...………

3. Area of operation………………………………………………………………………………...

4. Year of establishment and organizational pattern…………………………………………………...

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5. Notified commodities and notified area………………………………………………………………

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6. Functions and Objectives of the market…………………………………………………………………

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7. Constitution of market committee………..…………………………………………………………

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8. Source of funds to run the committee……………………………………………………………....

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9. What are the facilities provided in the local market to farmers in terms of storage, grading, finance

   and others?...

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10. Is commercial grading facility provided for grading the farmer's produce?......................................

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11. Do the farmers make use of the commercial grading facility?...

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12. How traders are selected to operate within the market yard…………………………….…………..

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13. Is storage facilities provided to farmers to store the produce till they get expected price:…………..

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14. What are the special schemes in operation to help the farmers……………………………………...

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15. What is the percentage of utilization of regulated market by the farmers in the locality?

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16. What are the difficulties faced in providing facilities to serve the farmers in marketing their produce

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17. What help do you expect from the government to help the farmers in a better way to market their produce……………………………………………………………………………………….…....

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18. Contact five farmers visiting the market and elicit their response on facilities provided, problems faced in marketing through regulated markets…………………………………………………………...

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19. Any other information……………………………………….………………………………………

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