VIVEKANANDA COLLEGE THAKURPUKUR

KOLKATA-700063

NAAC ACCREDITED 'A' GRADE

Topic: **Overhead (Machine Hour Rate)**

Course Title: CC 2.1 Ch

Paper: Cost and Management Accounting - I

Unit: 04

Semester: 2nd Semester

Name of the Teacher: PINAKI GHOSH

Name of the Department: COMMERCE

Overhead (Machine Hour Rate)

The Institute of Cost and Management Accountants, London, defines the machine hour rate as "an actual or pre-determined rate of cost apportionment or overhead absorption which is calculated by dividing the cost to be apportioned or absorbed by the number of hours for which a machine or machines are operated or expected to be operated."

In general, Machine hour rate method is one of the methods of absorption of factory overheads into production. In industries like chemicals, engineering, steel and other heavy industries where the work is done mostly by machines, it is desirable to adopt the machine hour rate method for the absorption of factory overheads, because, in such industries, factory overheads largely consist of expenses relating to the maintenance and operation of machines.

Machine Hour Rate (MHR)= Total overhead of the cost centre / Total effective machine hours

The following format can be used for computing the Machine Hour Rate :-

Item of Expenses	Pear Year (Amount)	Per Hour (Amount)
A. Standing Charges :	xx	
(a) Rent & Rates … … … ... …	xx	
(b) Heating &lighting. … … … ... …	xx	
(c) Supervision … … … ... …	xx	
(d) Insurance … … … ... …	xx	
(e) Lubricating oil & Consumable stores … … … ... …	xx	
(f) Sundry supplies /Cleaning materials …… … ... …	xx	
(g) Departments & General overheads . … … … ...	xx	
Total Fixed /Standing Charges …. … … ...	xx	
Fixed /Standing Charges per hour	xx	
		xx
B. Running Charges :		
(a) Depreciation		xx
(b) Repairs & Maintenance …. … … ...		xx
(c) Power …. … … ...		xx
(d) Other running ex		xx
MACHINE HOUR RATE-		***
Add: Wages of Operators and Workmen's compensation etc.		***
COMPREHENSIVE MACHINE HOUR RATE-		****

From the following particulars calculate the machine hour rate:

	Rs.
Cost the machine	200000
Installation charges	20000
Rent of the shop p/m	3000
Insurance premium for the machine p.a.	1% of the capital cost
electricity charges for the shop p.m.	300
Repair and maintenance	@ 0.5% of capital cost
Supervisor's salary p.m.	1800
Rate of power charges	per 100 units 55

(The machine consumes 16 units of power per hour)

The machine occupies 1/3 rd of the shop area. Its life is 10 years and anticipated scrap value is Rs.10000.The supervisor devotes 1/4th of his time to the machine. Estimated idle time: 50 hours in a year. Normal working days during a year: 250days of 8 hours and 50days of 5 hours.

P.T.O

Solution:

1.Effective machine hours= Normal working hours - Normal idle time hours

= [(250*8) +(50*5)]- 50 hours

= 2200 hours

2.Depreciation per year under straight line method

= [Cost price +Installation charges -scrap value] / Life of machine

= [200000+20000-10000] /10 =Rs.21000

Statement showing computation of Machine Hour Rate

Effective Machine Hours per Year: 2,200 hours

Items of Expenses	Calculation	Per Year	Per Hour
A. Standing Charges :			
Rent of Shop	3000*12*1/3	12,000	
Insurance @1% of capital cost	(200000+20000)*1/100	2,200	
Electricity	300*12*1/3	1,200	
Supervisor's Salary	1,800*12*1/4	5,400	
Fixed expenses for 2,200 hours		20,800	9.45
B. Running Charges :			
Depreciation	(21,000/2,200)		9.55
Repairs & Maintenance	(2,20,000*0.5/100) /2,200		0.50
Power	(55*16)/100		8.80
Machine Hour Rate			28.30