Chapter-05:Flexible Budget

Q.1: Flexible budget and the characteristics of flexible budget:

A flexible budget is a budget designed to change in accordance with the level of activity attained. For example- A company's general working capacity is 100 %. At this condition, there is made one or more budget in together for 70%, 80%, 90%, 100% working capacity. Then, any of these working capacities is used or changed when there is need for flexibility. Some characteristics of flexible budget are given below:

1. It takes into account how changes in activity affect costs.
2. It makes easy to estimate what costs should be for any level of activity within a specified range.
3. It compares actual costs with budgeted costs for performance evaluation.

Q.2: Static budget:

A static budget is prepared at the beginning of the budgeting period and is valid for only the planned level of activity. A static budget is suitable for planning but is inappropriate for evaluating how well costs are controlled. If the actual level of activity differs from what was planned, it would be misleading to compare actual costs to the static budget. If activity is higher than expected, variable costs should be higher than expected; and if activity is lower than expected, variable costs should be lower than expected.

Q.3: Purposes of flexible budget:

The purposes of flexible budget are given below:

1. To keep balance between flexible working capacity with budgeted working capacity.
2. To keep proper division of expenses based on the flexibility of the expenses.
3. To compare the variances of budget with the actual expenses properly.
4. To reduce the differences between actual working capacity and budgetary working capacity.

Q.4: Differentiate fixed budget with flexible budget:

The differences between fixed budget and flexible budget are given below:

1. The budget which is determined in advanced for – is the task measured in monetary term or based on unit and there is no change in pre-planned budget, is called fixed budget.
   On the otherhand, A budget that can be used to estimate what costs should be for any level of activity within a specified range, is called flexible budget.
2. Fixed budget prepared for a specific working level.
   On the otherhand, flexible budget prepared for multiple budget with one or more working level.

3. There is no division of working level in case of fixed budget.
   On the otherhand, There is division of working level in case of flexible budget.
4. It is difficult to compare actual working level with budget in fixed budget. On the otherhand, It is no easy to compare actual working level with budget in flexible budget.
5. It is difficult to keep balance with actual working level in fixed budget. On the otherhand, It is easy to keep balance with actual working level in flexible budget.

Q.5: How a flexible budget works:

A flexible budget approach recognizes that a budget can be adjusted to show that costs should be for the actual level of activity. A flexible budget adjusts to changes in actual revenue levels. Actual revenues or other activity measures are entered into the flexible budget once an accounting period has been completed, and it generates a budget that is specific to the inputs. The budget is then compared to actual expenses for control purposes. The steps needed to construct a flexible budget are:

a. Identify all fixed costs and segregate them in the budget model.
b. Determine the extent to which all variable costs change as activity measures change.
c. Create the budget model, where fixed costs are "hard coded" into the model, and variable costs are stated as a percentage of the relevant activity measures or as a cost per unit of activity measure.
d. Enter actual activity measures into the model after an accounting period has been completed. This updates the variable costs in the flexible budget.
e. Enter the resulting flexible budget for the completed period into the accounting system for comparison to actual expenses.

This approach varies from the more common static budget, which contains nothing but fixed amounts that do not vary with actual revenue levels. Budget versus actual reports under a flexible budget tend to yield variances that are much more relevant than those generated under a static budget, since both the budgeted and actual expenses are based on the same activity measure. This means that the variances will likely be smaller than under a static budget, and will also be highly actionable.

Q.6: Short Notes:

Budget Variance: The differences between the actual fixed overhead costs incurred and the budgeted fixed overhead costs in the flexible budget.

Denominator activity: The level of activity used to compute the predetermined overhead rate.

Volume Variance: The variance that raises whenever the standard hours allowed for the actual output of a period are different from the denominator activity level that was used to compute the predetermined overhead rate. It is computed by multiplying the fixed component of the predetermined overhead rate by the difference between the denominator hours and the standards hours allowed for the actual output.

Predetermined Overhead Rate: A pre-determined overhead rate is the rate used to apply manufacturing overhead to work-in-process inventory. The pre-determined overhead rate is calculated before the period begins. The first step is to estimate the amount of the activity base that will be required to support operations in the upcoming period. The second step is to estimate the total manufacturing cost at that level of activity. The third step is to compute the predetermined overhead rate by dividing the estimated total manufacturing overhead costs by the estimated total amount of cost driver or activity base. Common activity bases used in the calculation include direct labor costs, direct labor hours, or machine hours. This is related to an activity rate which is a similar calculation used in Activity-based costing. A pre-determined overhead rate is normally the term when using a single, plant-wide base to calculate and apply overhead. Overhead is then applied by multiplying the pre-determined overhead rate by the actual driver units. Any difference between applied overhead and the amount of overhead actually incurred is called over- or under-applied overhead.

The predetermined overhead rate that can be computed using the following variation on the basic formula:

$$Predetermined\ Overhead\ Rate = \frac{\text{Estimated total manufacturing overhead cost}}{\text{Estimated total amount of the base (MH,DLH etc.)}}$$

Variable Overhead Spending Variance: Variable Overhead Spending Variance is essentially the difference between what the variable production overheads actually cost and what they should have cost given the level of activity during a period. The standard variable overhead rate is typically expressed in terms of the number of machine hours or labor hours depending on whether the production process is predominantly carried out manually or by automation. A company may even use both machine and labor hours as a basis for the standard (budgeted) rate if the use both manual and automated processes in their operations. Variable overhead spending variance is favorable if the actual costs of indirect materials — for example, paint and consumables such as oil and grease—are lower than the standard or budgeted variable overheads. It is unfavorable if the actual costs are higher than the budgeted costs.

Variable Overhead Spending Variance= Actual hour (Actual rate- Standard rate)

Variable Overhead Efficiency Variance: Variable Overhead Efficiency Variance is the measure of impact on the standard variable overheads due to the difference between standard number of manufacturing hours and the actual hours worked during the period.

Variable Overhead Spending Variance= Standard rate (Actual hour- Standard hour)

Fixed Overhead Budget Variance: Fixed overhead budget variance is the difference between total fixed overhead budgeted for a given accounting period and actual fixed overheads incurred during the period. This variance is favorable when actual fixed overhead incurred are less than the budgeted amount and it is unfavorable when actual fixed overheads exceed the budgeted amount. Fixed overhead budget variance is also known as fixed overhead spending/capacity/expenditure variance.

Fixed Overhead Budget Variance= Actual fixed overhead cost – Budgeted fixed overhead cost.

Fixed Overhead Volume Variance: The fixed overhead volume variance is the difference between the amount of fixed overhead actually applied to produced goods based on production

volume, and the amount that was budgeted to be applied to produced goods. This variance is reviewed as part of the period-end cost accounting reporting package.

For example, a company budgets for the allocation of $25,000 of fixed overhead costs to produced goods at the rate of $50 per unit produced, with the expectation that 500 units will be produced. However, the actual number of units produced is 600, so a total of $30,000 of fixed overhead costs are allocated. This creates a fixed overhead volume variance of $5,000.

The fixed overhead costs that are a part of this variance are usually comprised of only those fixed costs incurred in the production process. Examples of fixed overhead costs are: Factory rent, equipment depreciation, salaries of production supervisors and support staff, insurance on production facilities, utilities.

Fixed Overhead Volume Variance= Fixed component of the predetermined overhead rate×
(Denominator hours – Standards hours allowed)

Exercise

Exc-1: Review problem: This problem provides the computation of under-applied or over-applied overhead and its breakdown into the four overhead variances. Data for the manufacturing overhead of Aspen Company are as follows:

	Cost formula (per machine hour)	Machine - hours		
Overhead cost		5,000	6,000	7,000
Variable overhead cost:				
Supplies……	$ 0.20	$1,000	1,200	1,400
Indirect labor ……	0.30	1,500	1,800	2,100
Total variable cost …….	**$ 0.50**	**2,500**	**3,000**	**3,500**
Fixed overhead cost:				
Depreciation ……		4,000	4,000	4,000
Supervision ……..		5,000	5,000	5,000
Total fixed overhead cost …….		9,000	9,000	9,000
Total overhead cost ……		**$11,500**	**$12,000**	**$12,500**

Five hours of machine time are required per unit of product the company has set its denominator activity for the coming period at 6,000 machine-hours (or 1,200 units).

Assume the following actual result for the period:

Number of units produced …….. 1,300 units
Actual machine hours ……. 6,800 machine hours
Standard machine hours allowed* ……. 6,500 machine hours
Actual variable overhead cost…….. $4,200
Actual fixed overhead cost ……$9,400
*1,300 units X 5 machine hours per unit

Required:

Analyze the $600 underapplied overhead in terms of:

1. The variable overhead spending variance
2. The variable overhead efficiency variance
3. The fixed overhead budget variance
4. The fixed overhead volume variance

Exc-2: Prepare a flexible budget: The cost formula for Emory company's manufacturing overhead costs are given below. These cost formulas cover a relevant range of 15,000 to 25,000 machine hours each year.

Overhead Costs	Cost Formula
Utilities ……	$0.30 per machine hour
Indirect labor……	$52,000 plus $1.40 per machine hour
Supplies ……..	$0.20 per machine hour
Maintenance ……	$18,000 plus $0.10 per machine hour
Depreciation …….	$90,000

Required: Prepare a flexible budget in increments of 5,000 machine hours. Include all costs in your flexible budget.

Exc-3: Applying overhead in a standard costing system: Privack Corporation has a standard cost system in which it applies overhead to products based on the standard direct labor-hours allowed for the actual output of the period. Data concerning the most recent year appear below:

Variable overhead cost per direct labor hour …….	$2.00
Total fixed overhead cost per year …….	$2,50,000
Budgeted standard direct labor hours (denominator level of activity) …….	$40,000
Actual direct labor hours ……	$39,000
Standard direct labor-hours allowed output ……	$38,000

Required:

1. Compute the predetermined overhead rate for the year.
2. Determine the amount of overhead that would be applied to the output of the period.