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# Theory Q&A

## Chp12 Service

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# Chp12. Service

## Theory Q&A

*(b) Explain Build-Operate-Transfer (BOT) approach and classify the following expenses in Capital Cost or Operating and Maintenance Cost for Toll Roads:*

*(i) Land acquisition*

*(ii) Interest expenses incurred for servicing term loans*

*(iii) Material and Labour*

*(iv) Toll Collection Expenses*

*(v) Contingency Allowance*

*(vi) Periodic painting cost of railings etc.*

**(2 + 3 = 5 Marks)**

**(b) Build-Operate-Transfer (BOT) Approach:** BOT is an option for the Government to outsource public projects to the private sector.

With BOT, the private sector designs, finances, constructs and operates the facility and eventually, after specified concession period, the ownership is transferred to the Government. Therefore, BOT can be seen as a developing technique for infrastructure projects by making them amenable to private sector participation.

Expenses	Classification
Land acquisition	Capital Cost
Interest expenses incurred for servicing term loans	Operating and Maintenance Cost

# PYQ – 2024 Sep – Q4 b



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Material and Labour	Capital Cost
Toll Collection Expenses	Operating and Maintenance Cost
Contingency Allowance	Capital Cost
Periodic painting cost of railings etc.	Operating and Maintenance Cost

(d) *What do you understand by Build-Operate-Transfer (BOT) approach in Service Costing?  
How is the Toll rate computed?*

- (d) **Build-Operate-Transfer (BOT) Approach:** In recent years a growing trend emerged among Governments in many countries to solicit investments for public projects from the private sector under BOT scheme. **BOT is an option for the Government to outsource public projects to the private sector.**

With BOT, the private sector designs, finances, constructs and operate the facility and eventually, after specified concession period, the ownership is transferred to the Government. Therefore, BOT can be seen as a developing technique for infrastructure projects by making them amenable to private sector participation.

**Toll Rate:** In general, the toll rate should have a direct relation with the benefits that the road users would gain from its improvements. The benefits to road users are likely to be in terms of fuel savings, improvement in travel time and good riding quality.

To compute the toll rate, following formula may be used

$$= \frac{\text{Total Cost} + \text{Profit}}{\text{Number of Vehicles}}$$

Or, to compute the toll rate following formula with rounding off to nearest multiple of five has been adopted: User fee = Total distance x Toll rate per km.

(a) *Describe Composite Cost unit as used in Service Costing and discuss the ways of computing it.*

(a) **Composite Cost Unit:** Sometime two measurement units are combined together to know the cost of service or operation. These are called composite cost units. For example, a public transportation undertaking would measure the operating cost per passenger per kilometre.

Examples of Composite units are Ton- km., Quintal- km, Passenger-km., Patient-day etc.

**Composite unit may be computed in two ways:**

- (i) Absolute (Weighted Average) basis.
- (ii) Commercial (Simple Average) basis.

In both bases of computation of service cost unit, weightage is also given to qualitative factors rather quantitative (which are directly related with variable cost elements) factors alone.



- (i) **Weighted Average or Absolute basis** – It is summation of the products of qualitative and quantitative factors. For example, to calculate absolute Ton-Km for a goods transport is calculated as follows.:

$$\sum (\text{Weight Carried} \times \text{Distance})_1 + (\text{Weight Carried} \times \text{Distance})_2 + \dots + (\text{Weight Carried} \times \text{Distance})_n$$

Similarly, in case of Cinema theatres, price for various classes of seats are fixed differently. For example–

First class seat may be provided with higher quality service and hence charged at a higher rate, whereas Second Class seat may be priced less. In this case, appropriate weight to be given effect for First Class seat and Second Class seat – to ensure proper cost per composite unit.

- (ii) **Simple Average or Commercial basis** – It is the product of average qualitative and total quantitative factors. For example, in case of goods transport, Commercial Ton-Km is arrived at by multiplying total distance km., by average load quantity.

$$\sum (\text{Distance}_1 + \text{Distance}_2 + \dots + \text{Distance}_n) \times \left( \frac{W_1 + W_2 + \dots + W_n}{n} \right)$$

In both the example, variable cost is dependent of distance and is a quantitative factor. Since, the weight carried does not affect the variable cost hence and is a qualitative factor.

(b) DIFFERENTIATE between Service costing and Product costing.

- (b) Service costing differs from product costing (such as job or process costing) in the following ways due to some basic and peculiar nature.
- (i) Unlike products, services are intangible and cannot be stored, hence, there is no inventory for the services.
  - (ii) Use of Composite cost units for cost measurement and to express the volume of outputs.
  - (iii) Unlike a product manufacturing, employee (labour) cost constitutes a major cost element than material cost.
  - (iv) Indirect costs like administration overheads are generally have a significant proportion in total cost of a service as unlike manufacturing sector, service sector heavily depends on support services and traceability of costs to a service may not economically feasible.

(d) EXPLAIN standing charges and running charges in the case of transport organisations. LIST three examples of both.

(d) **Standing Charges:** These are the fixed costs that remain constant irrespective of the distance travelled. These costs include the following-

- Insurance
- License fees
- Salary to Driver, Conductor, Cleaners, etc. if paid on monthly basis
- Garage costs, including garage rent
- Depreciation (if related to efflux of time)
- Taxes
- Administration expenses, etc.

**Running Charges:** These costs are generally associated with the distance travelled. These costs include the following-

- Petrol and Diesel
- Lubricant oils,
- Wages to Driver, Conductor, Cleaners, etc. if it is related to operations
- Depreciation (if related to activity)
- Any other variable costs identified.