

Third Year

Diploma in

Civil

Engineering

Sixth Semester

Chapter wise Notes

Sub: —

CONTRACTS AND ACCOUNTS

Subject Title : Contracts and Accounts

Subject Code : 17603

Topic: 1 Procedure of Execution of Work By P.W.D.

Contents

- Organizational structure of p.w.d., functions of their personnel.
- P.w.d. Procedure of initiating the work. Administrative approval, technical sanction, budget provision.
- Methods used in p.w.d. for carrying out works contract method and
- departmental method, rate list method, piece work method, day's work method, department method.

Que.1 Define the following terms (S 09, S 11, S 10) OR

Briefly explain 'Administrative approval and Technical sanction' in connection with government works.

- i) Administrative approval ii) Technical sanction

Ans: Definitions:-

1. Administrative Approval:-

To executive any construction activity initially a proposal is to be send to concerned department along with preliminary estimate and type of work for necessary approval such approval is called as Administrative approval.

2. Technical Sanction:-

After obtaining the approval a detailed estimate and detailed drawings are prepared and sanctioning of competent authority is obtained such sanctioning is termed as technical sanctioning.

Que.2 Enlist any four methods used in PWD for execution of work. Explain any one. (S09, S 11)

Ans: Methods used in P.W.D for carrying out the work

- a. Rate List Method
- b. Contract Method.
- c. Piece Work Method
- d. Day Work Method
- e. Employing Daily Labour

a) In Public Works Dept. there are basic four methods for carrying out works:

Employing labour on daily basis-In this method, labourers like Mazdoor, carpenter etc are engaged by Asst. Engineer and their wages are drawn as per NMR.

Rate List - Works costing up to rs.25000/- can be carried out by rate list method.

PWD has list of petty contractors to carry out small jobs of repair /maintenance. An undertaking is taken from petty contractors to under take a work at specific conditions

Piece work- FOR small/routine works of less cost this method is advisable. The contractor agrees to execute the work at certain agreed rates without consideration of total quantity or duration .

Day work- system of costing for valuing a work which can not be measured accurately on the basis of materials /labour used for completion.

Contract- the agreement between PWD and contractor for execution of work under specific terms and conditions for certain amount of money.

Que.4 Differentiate between lump sum and item rate contract.(S 09, W09, S 11, S 12

Ans: **Difference between Lump sum and Item Rate Contract:**

Lump sum Contract	Item Rate Contract
1. The work gets completed within stipulated time.	The work may delay due to delay in supply of material.
2. Profit can be achieved by the contractor by proper planning	it is balanced type of contact.
3. Maintaining account is not necessary.	Maintaining of account is necessary.
4. Cost of project is known before completion.	Cost of project is not known before completion.
5. Quality of work cannot be maintained.	Quality of work is maintained
6. Conflicts may occur between and contractor.	Conflicts are not occur between and contractor.
7. The contractor can get excess profit or excess loss	The contractor cannot get excess profit or excess loss

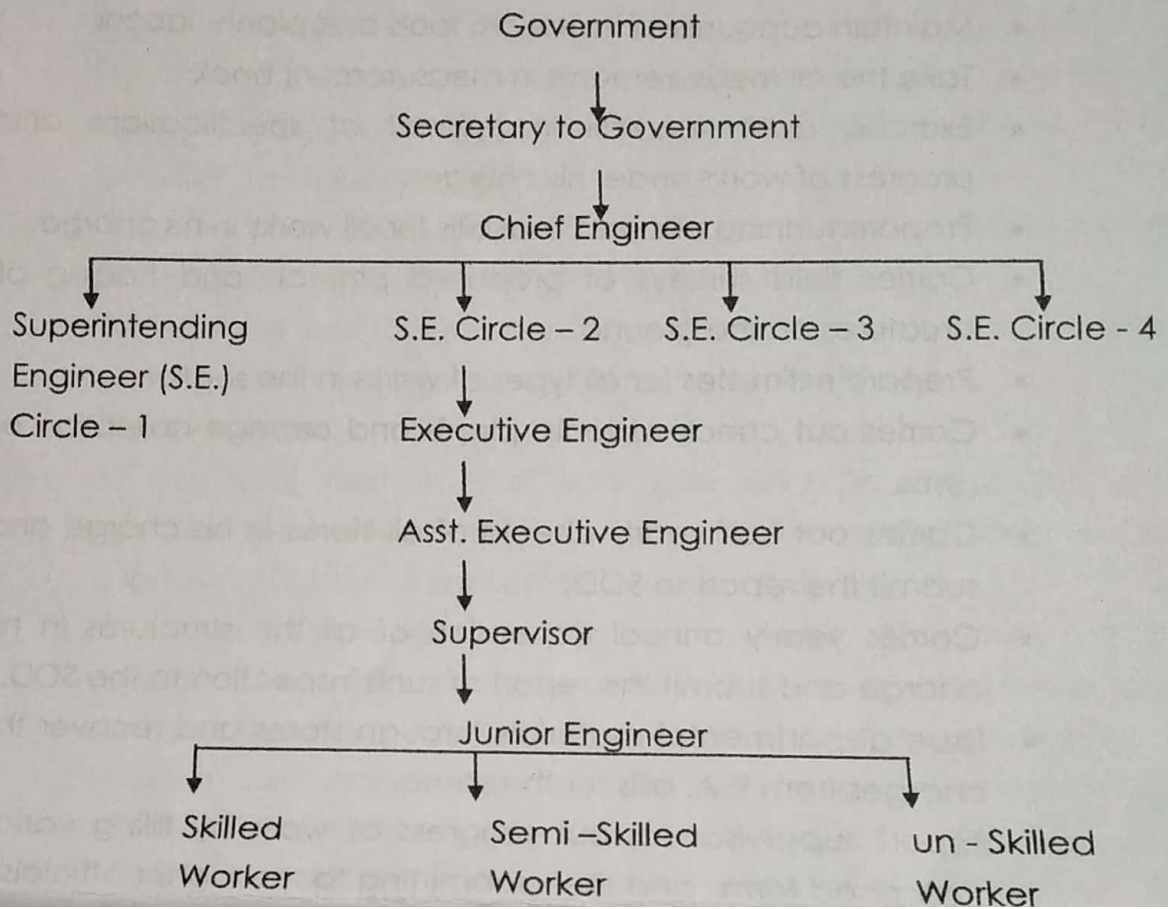
Que.7 Explain the Rate list method of executing work by PWD. (W 09)

Ans: Rate List Method:

1. For carrying out small quantity of work (Petty Work) this method is adopted.
2. Special repairing work is generally carried out by this method.
3. In rate list method as the work is small hence tender are not published in news papers.
4. In rate list method quantity of work is not known hence generally agreement is made between owner and contractor.
5. A list of petty work is been displayed in the office of executive engineer.
6. Large number of small work can be allotted at a time.

Que.5 Draw organization chart of PWD.(S 09, W 09, S 10, W 11

Ans: Following is the organization chart of PWD.



- Take detailed measurements of works during progress, record in MB and prepare bills thereof.
- Maintain accounts of materials, tools and plants, labour
- Take the all measurements in measurement book
- Exercise direct control in respect of specifications and progress of works under his charges.
- Prepare running bills and final bills for all works in his charge
- Carries field surveys of proposed projects and tracing of structures on the ground
- Prepare estimates for all types of works in the section
- Carries out check of tools, plants and arrange collection of rents.
- Carries out half yearly checks of all stores in his charge and submit the report to SOD.
- Carries yearly annual inspection of all the structures in his charge and submit the report of such inspection to the SOD.
- Issue departmental materials through stores and recover the charges from R.A. bills for the same.
- Report supervisors about progress of work by filling various prescribed forms and then submitting to the higher officials.

Que. 8 State the advantages and disadvantages of item rate contract.

Ans: Item Rate Contract:

In this type of contract, the contractor undertakes the work on the item rate basis. The payment is done on the basis of quantities of items done and their respective rates.

The quantities of various items are worked out by detailed measurements. This type of contract is also known as unit price contract. The approximate quantities of all possible items of work are worked out and are shown in the tender form. Every contractor quotes his rates against each item and arrives at the final total amount of the work. This is the most common type of contract system, which is widely adopted.

Following are the advantages of item-rate contract

1. The additions and alterations in the plan and specifications can be easily made at any stage.
2. As the contractor gets the payment against the actual quantities of items done by him, the method is economical. No possibility for excess payment.
3. As the rates are item-wise the contractor is not worried regarding the uncertainties in the plan and specifications.
4. The work can be started after accepting the tenders without waiting for all the detailed drawings and specifications.

Disadvantages:

1. The total cost of the work can only be computed after completion of entire project. In such case the contractor may face financial difficulties if final cost increases abnormally.
2. Before preparing the bills for payment of money to the contractor, all measurements of various items of work have to be carefully taken and suitably entered in the measurement book.
3. Great care shall be taken by the department officers to strictly enforce the specifications during execution of work to avoid the using of substandard materials by the contractor.

Que.9 What are the functions of superintending engineer? (S 12

Ans: Functions of Superintending Engineer

1. The Estimate submitted by the Executive Engineer should be checked by the Superintending Engineer before forwarding it to Chief Engineer.
2. The Superintending Engineer should give technical sanction to estimate within his power.
3. The Superintending engineer should look after the Administrative approval and Technical Control of the circle.
4. He should see whether execution of work is carried according to the rules and regulations.
5. He should see whether the accounts related to execution of work are maintained properly.
6. The Superintending Engineer should inspect the divisional office at once in a year.

Que. 10 Explain terms technical sanction and budget provision.

Ans:

i) Administrative approval-

For any work or project require by a dept. an approval of the competent authority of the dept. w.r.t. Cost is necessary at the first instance .this approval authorizes the engg. dept. to take up the work in hand.

The administrative approval denotes the formal acceptance of the concerned dept. for the said proposal. Engg. Dept. prepares the preliminary plans and approximate estimate and submit to concerned dept for administrative approval.

The engg. dept. takes up the work and prepare plans, detail designs and estimates and then execute the work only after administrative approval is given by concerned dept. (1/2)

ii) Budget provision-

For any work or project it is necessary to provide finance oroginally the estimates are prepared by PWD and sent to the secretary of the dept. and consequently to the finance dept.,.

The assurance of finance dept. for allotment of funds to the estimates, fully or partly, submitted above in writing is known as budget provision. Engg. Dept takes up execution

iii) Technical Sanction:-

After obtaining the approval a detailed estimate and detailed drawings are prepared and sanctioning of competent authority is obtained such sanctioning is termed as technical sanctioning.

Que. 11 Differentiate between Cost Plus Percentage Rate Contract Cost Plus Fixed Fee Contract.

Cost Plus Percentage Rate Contract	Cost Plus Fixed Fee Contract
1. In this contract the owner pays the contractor the actual cost of work plus percentage of cost as his profit	1. In this contract the owner pays the contractor the actual cost of work plus a certain fixed amount as his fee.

2. In this case pre-determined amount in terms of percentage is give to the contractor.	2 In this contract pre-determined fee is decided to be given to the contractor.
3. The contractor may quote high material rate so that he may get more profit from overall work.	3 Fixed fee is decided by the owner to be given to the contractor.
4 The contractor may get more profit.	4 Profit of contractor depends upon the completion of work

Que. 12 Differentiate between daily wages and piece work method.

Daily Wages Method	Piece (Petty) Work Method
Daily wages is the method of valuing work on the basis of time spend by the labourers.	Piece work method is the method of valuing work on the basis of quantity of work actually done by the petty worker.
<i>This method is suitable where accurate measurements are not possible to take</i>	This method is suitable where accurate measurements are possible to take
Payment is not done on the actual measurement of work	Payment is done on the actual measurement of work
This method is suitable where it is not possible to take accurate measurements.	This method is suitable for: 1. Maintenance work 2. Works like earth work for road, canal etc.

Que.13 Differentiate between piece work and Day work method. (W 09)

Piece (Petty) Work Method	Day work method
Piece work method is the method of valuing work on the basis of quantity of work actually done by the petty worker.	Day work method is the method of valuing work on the basis of actual material and labour used.
This method is suitable for: <ol style="list-style-type: none"> 1. Maintenance work 2. Works like earth work for road, canal etc. 	This method is suitable for: <ol style="list-style-type: none"> 1. Decorative work 2. Artistic work 3. Special work like under water works.
The basis of payment will be actual quantity of work.	The basis of payment will be actual material cost, labour cost per day.
Agreement is made on A1 and A2 form	Such agreement is not required.