

PNS SCHOOL OF ENGINEERING & TECHNOLOGY

**NISHMANI VIHAR , MARSHAGHAI, KENDRAPARA-
754213**



**SUBJECT- Estimating and costing 1
(3rd Semester)**

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**DEPARTMENT OF CIVIL
ENGINEERING**

Administrative set – up :-Office of the Engineer-in-Chief (Civil)

This is the Head of Department office and functioning under Government of Odisha, Works Department. There are ten Circle Officer (Seven Civil, one P.H., one Electrical and one Mechanical) functioning under this Organization. There are 36 Civil Divisions, 2 G.P.H. Division, 4 General Electrical Divisions and 4 Mechanical Divisions are functioning under the above Circle Offices, Sub-Divisional Officers and Section Offices are also functioning under the above Divisional Offices.

The Engineer-in-Chief (Civil) is the head of the Organization. Three Chief Engineers designated as Chief Engineer, (DPI & Roads), Chief Engineer, Buildings, and Chief Engineer, World Bank are functioning under the Office.

Design Planning and Investigation & Roads

The Design and Planning activity in the organization is provided through a separate Design, Planning and Investigation Wing in the Odisha Works Department. Its head the Chief Engineer, Design Planning and Investigation and Road (CE (DPI & R)) has a reporting responsibility to the EIC-cum-Secretary.

Buildings

In addition to responsibilities for roads, Odisha Works Department has the task of supervising the construction and maintenance of public buildings on behalf of a wide range of State Government Organizations. For this purpose, the organization structure of Odisha Works Department includes a specific wing devoted to this activity. It is headed by a Chief Engineer Buildings (CE (B)) reporting to the EIC-cum-Secretary.

World Bank Project

Odisha State Road Project (O.S.R.P) is a World Bank Funded Project implemented by Works Department (OWD) of GOO. The Project Development Objective (PDO) is to remove transport bottlenecks in targeted transport corridors for greater investment and economic and social development activities in the State of Odisha. The Project Management Unit (PMU), headed by Chief Engineer(WBP) is located at Nirman Soudh , Unit - 5, Bhubaneswar.

National Highways

Responsibility for new construction and maintenance works on the National Highways is under

the control of the Chief Engineer National Highways (CE (NH)). The CE (NH) reports to MOST for works carried out on the National Highway network.

Research Development and Quality Promotion

Inspection and Quality Control activity is under the control of the Chief Engineer Research Development and Quality Promotion (CE (RD & QP)). It was established as a Research Laboratory in 1965 to cater to the need for testing of materials involved in road and building construction. This wing's functions expanded in 1982 to include a research development and quality promotion cell.

Odisha Bridge Construction Corporation

Odisha Bridge & Construction Corporation Limited (OB&CC) was incorporated on 01.01.1983 under Companies Act, 1956 as a Govt. Company. It is a Government Company sponsored by Odisha State Government within the meaning of section 617 of the Companies Act. Since its inception, it is working as a Govt. of Odisha undertaking Organisation. The Corporation is governed by Managing Director on behalf of Board of Director nominated by the Govt. under guidelines set by Memorandum of Association and Articles of Association along with work rules mentioned therein.

Office of the Chief Architect

The office of the Chief Architect is working as an independent Heads of Department under the administrative control of Works Department and looks after the architectural matters of the State of Odisha. Besides the above, the said office also prepares architectural project drawings for Works Department and also for other Departments. This wing is headed by CE (Architect).

State Procurement Cell

With the objective of supervision of full roll out of e-procurement in the four Engineering Departments of the State, Government have constituted the "State Procurement Cell" under the administrative control of Works Department with EIC (Civil), Odisha as the Chief Procurement Officer vide Works Department O.M No.8904 dt 06.05.2008. This wing is headed by Chief Engineer cum Chief Manager (Tech) of the State Procurement Cell, Govt. of Odisha.

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(a) Duties and responsibilities of the Junior Engineers when posted as supervisor at site or in section:

1. To keep detail history of all roads, culverts, bridges and building which belong to his jurisdiction alongwith Row of Road, conditions of roads, bridges, culverts & buildings.
2. To maintain a register with the work which was executed over the roads, bridges, culverts and building premises or any other structure with relevant data like, Mouza Map, Right of way for road stretches, Road furniture, trees, schematic as well as technical details of the asset, as-built drawings, nature of any work executed over the asset or its portion, date of completion of the work, end date of defect liability period (DLP) according to the contract for said work, condition of the asset during defect liability period, Name of agency with his contract reference. This register will be road wise/ building wise. He is to update asset register on regular basis keeping all relevant drawings linked with the asset in safe custody.
3. To inspect every road/bridge/culvert/building on periodical basis. He should maintain a register to keep record as per his inspection and observation. For road stretches this inspection will be biweekly basis during monsoon period. If he observes any irregularities or any damages or any difficulties at the time of his inspection he should inform it to his higher authorities at once. The recurrence of failure is to be informed to his higher authorities as and when identified.
4. To watch whether any untoward matters including encroachment are going on the roads or building premises. If he observes it, he should take suitable steps towards it and informs to his higher Authority.
5. To prepare all the preliminary & detailed estimates for original works, periodical maintenance, addition and alteration as well as modernization as directed by his higher authorities, inclusive of Scheduled & Non Scheduled items with proper analysis of rates, rough drawing, site plan by collecting engineering data and drawings and submit those estimates to his immediate superior authority for approval from competent authority.
6. To supervise and see that all works under his charge are done according to the specifications, drawings, standards lay down in contract agreement/ tender schedule of works and approved samples by engineer in charge. He is expected to remain at site throughout in order to see that the works are executed properly in accordance with the requirements, standards and approved samples. It is the duty of the Junior Engineer to bring it at once to the notice of immediate superior authority and also make a note in the site order book if any work is not done by a Contractor maintaining stipulated period, specifications, requirement, drawings, standards laid down and approved samples (if any) including quality of materials.
7. To take the level of areas where earthwork or similar type of work is under execution and prepare volumetric calculation sheets for quantitative analysis and lead charts, etc.
8. To carry out test of materials like cement, steel, bitumen, metal, wood, soil, aggregates or any other material as directed by higher authorities and item of works as specified in contract agreement of works, maintain register of testing of each and every

item separately, and place to his immediate superior authority to make a note in the register.

Assistant Engineer Responsibilities:

- Understanding and carrying out all tasks given by the Senior Engineer.
- Collaborating with other engineers and workers to design, develop, test, and improve products and engineering processes.
- Ensuring all expenses stay within the allocated budget.
- Performing regular inspections of equipment and scheduling maintenance or repairs.
- Providing assistance to different staff or engineering teams.
- Inspecting inventory and reporting inconsistencies as well as ordering more materials.
- Producing CAD drawings according to specifications.
- Evaluating all products and processes and ensuring standardization of quality assurance measures.
- Participating in various learning experiences, which may include attending workshops and training sessions.
- Calibrating and troubleshooting equipment as required.