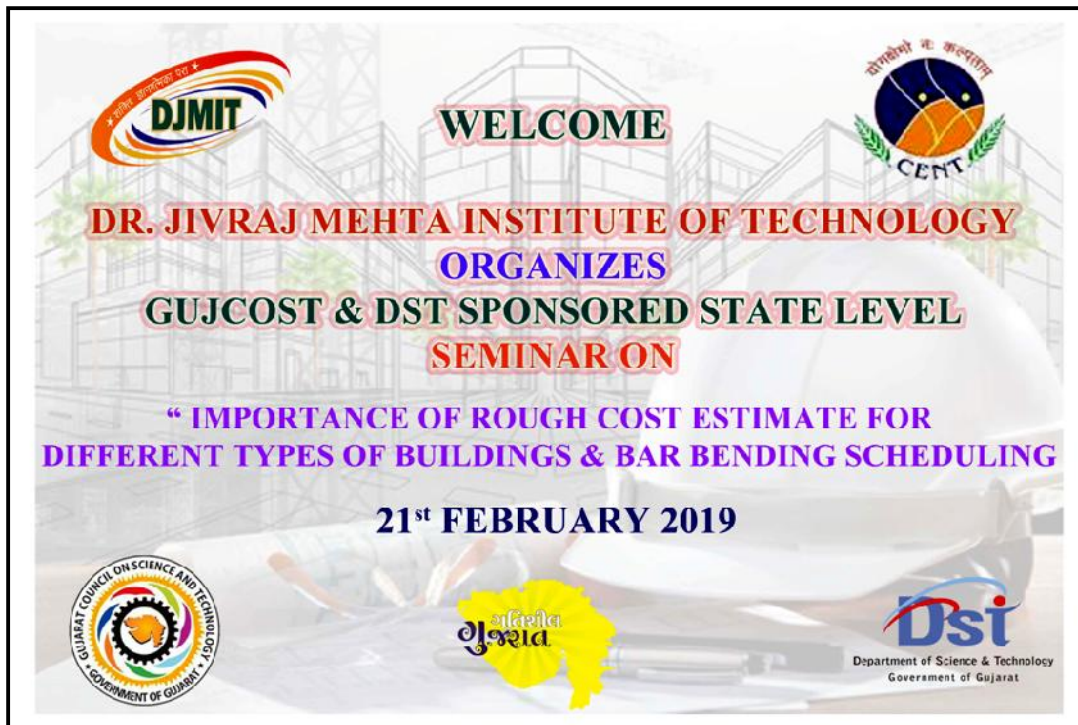


REPORT
on
GUJCOST SPONSORED & DST SUPPORTED
STATE LEVEL SEMINAR

**‘IMPORTANCE OF ROUGH COST ESTIMATE
FOR DIFFERENT TYPES OF BUILDINGS AND
BAR BENDING SCHEDULING’**



ORGANISED BY
CIVIL ENGINEERING DEPARTMENT
DR. JIVRAJ MEHTA INSTITUTE OF TECHNOLOGY, MOGAR,
ANAND
Held on
21ST FEBRUARY 2019

Seminar Title : **IMPORTANCE OF ROUGH COST ESTIMATE FOR DIFFERENT TYPES OF BUILDINGS AND BAR BENDING SCHEDULING**

- Organized By : CIVIL Engineering Department
- Chief Patron : Shri. Narendra Shrimali
- Patron : Dr. Arvindkumar M. Jain
- Convener : Prof. Hiren Talati
- Coordinators : Prof. Samarth Naik,
 - Prof. Avdhoot Jejurkar (DJMIT Coord.)
- Venue : Main Auditorium,
 Dr. Jivraj Mehta Institute of Technology.
- Date : 21st February 2019

AIM OF THE SEMINAR

- To introduce and bring the awareness about Importance of Rough Cost Estimate for Different Types Of Buildings and Bar Bending Scheduling through interaction with experts of different sessions.
- To discuss with the participants about bar bending schedule, this plays a significant role in any construction of high rise buildings.
- To update the participants about the knowledge and skills of various bar bending scheduling techniques.
- To make participants aware about opportunities for effective use of Bar bending scheduling in civil construction activities.

ABOUT THE SEMINAR

- The seminar will cover various topics including its need, relevance, importance, and its advantages.
- This one-day seminar will focus on significant aspects of rough cost estimate for different types of buildings and bar bending schedule (BBS).
- The Bar bending schedule is the schedule of steel bar reinforcement prepared well before cutting and bending rebars.
- Bar bending will not only reduce the wastage of reinforcement steel on the site, but also will reduce labor costs. This will help in reducing the overall cost of the project.
- Billing can be prepared real fast and easy using bar bending schedule.
- BBS can also be used for better-quality stock management for reinforcement bars. This helps preventing unnecessary storage of additional reinforcement steel bars at the construction site.

SCHEDULE OF ONE DAY SEMINAR

21 st FEBRUARY 2019, FRIDAY	
Time	Activity
9:30 am	Registration
10:00 am to 10:30 am	Inaugural Function
10:30 am to 11:00 am	Hi-Tea
11:00 am to 12:15 pm	Expert Lecture on Importance of Cost Estimate in Construction Project by Prof. Amit. N. Bhavsar , Asso. Professor, Birla Vishwakarma Mahavidyalaya, Vallabh Vidyanagar.
12:15 to 1:15 pm	Lunch
1:15 pm to 2:30 pm	Expert Lecture on Bar Bending Scheduling by Mr. Nirav Thakar , Senior Engineer, L & T, Vadodara
2:30 pm to 2:45 pm	Tea & Snacks
2:45 pm to 4:00 pm	Expert Lecture on Bar Bending Scheduling by Mr. Satish Jethwani , Structural Consultant, EZ Engineers P. Ltd., Vadodara
4:00 pm to 4:30 pm	Valedictory Function

REGISTRATION:

The registration began from 9:00 a.m. onwards. The total of 80 participants registered for the seminar including UG students, PG students and Faculty members. Spot registration was allowed for participants.

All registered participants received the Kit which included the seminar brochure.

INAUGURATION FUNCTION:

The inauguration session began with welcome to all the dignitaries on the dais and off the dais as well as all the faculties and participants.

As an auspicious beginning, the prayer was sung along with the lighting of lamp done by all the dignitaries. After that the floral welcome to all the dignitaries was done.

SESSION 1:

IMPORTANCE OF COST ESTIMATE IN CONSTRUCTION PROJECT

BY PROF. AMIT BHAVSAR

Associate Professor, Birla Vishwakarma Mahavidyalaya, Vallabh Vidyanagar.

SUMMARY OF DISCUSSION DURING EXPERT SESSION NO 1

- Required accuracy of cost estimates depends on the stage of a system design; accuracy varies from $\pm 20\%$ to $\pm 5\%$ of actual cost
- Costs can be updated using the unit method and cost indexes, where time differences are considered (inflation over time)
- The factor method estimates total plant costs, including indirect costs
- Indirect costs comprise a large percentage of product and service costs
- Traditional indirect cost allocation use bases such as direct labor hours, costs, and direct materials
- The ABC method of indirect cost allocation uses cost drivers to allocate to cost centers; it is better for understanding and analyzing cost accumulation
- Unethical practices in cost estimation result from personal financial motives, deception, financial pre-arrangements. Avoid deceptive acts

SESSION 2:

BAR BENDING SCHEDULING BY MR. NIRAV THAKAR

Senior Engineer, L & T, Vadodara

SUMMARY OF DISCUSSION DURING EXPERT SESSION NO 2

- INDIAN STANDARD (IS) 2502- 1963 (Reaffirmed 1990) (Reaffirmed 1999) (Reaffirmed 2004) CODE OF PRACTICE FOR BENDING AND FIXING OF BARS FOR CONCRETE REINFORCEMENT , BRITISH STANDARD (BS) 1478 : 1948 & AMERICAN CONCRETE INSTITUTE (ACI) 315 : 1951
- HOOK AND BEND ALLOWANCES

Nominal Size of Bar	Hook Allowance (H)						Bend Allowance (B)					
	Mild Steel Conforming to IS 432 or IS 1139		Medium Tensile Steel Conforming to IS 432 or IS 1139		Cold Worked Steel Bars Conforming to IS 1786		Mild Steel Conforming to IS 432 or IS 1139		Medium Tensile Steel Conforming to IS 432 or IS 1139		Cold Worked Steel Bars Conforming to IS 1786	
	Min	Rec.	Min	Rec.	Min	Rec.	Min	Rec.	Min	Rec.	Min	Rec.
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
8	75	-	90	-	105	-	75	-	75	-	75	-
10	90	-	110	-	130	-	75	-	75	-	75	-
12	110	-	130	-	155	-	75	-	75	-	75	-
16	145	-	175	-	210	-	80	-	90	-	95	-
20	180	-	220	-	260	-	100	-	110	-	120	-
25	225	-	275	-	325	-	125	-	140	-	150	-
28	250	310	310	365	365	475	146	155	155	170	170	195
32	290	350	350	415	415	545	160	175	175	190	190	225

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Ref No	Method of Measurement of Bending Dimensions	Approx. Total Length of Bar (L) Measured Along Centre Line	Sketch And Dimensions to be Given In Schedule
A		Where C is more than 3D $A + C + E$	
B		If angle with horizontal is 45 degree or less, and R is 12d or less $A + C + E + 2H$ or $L + 2H + C - \sqrt{C^2 - D^2}$ (If L is specified, A or E is omitted)	
C		If angle with horizontal is 45 degree or less, and R is 12d or less $A + C1 + C2 + E + F + 2H$ or $L + C1 + C2 + 2H - \sqrt{C1^2 - D1^2} - \sqrt{C2^2 - D2^2}$ (If L is specified, A, E or F is omitted)	

Hook Up ← Hook Down ↘ (T-IV, Cl. 3.1 and 3.1.2)

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Ref No	Method of Measurement of Bending Dimensions	Approx. Total Length of Bar (L) Measured Along Centre Line	Sketch And Dimensions to be Given In Schedule
A		$A + E - \frac{1}{2} R - d$	
B		$A + E - \frac{1}{2} R - d + 2B$	
C		$A + E - \frac{1}{2} R - d + 2H$	

Hook Up ← Hook Down ↘ (T-V, Cl. 3.1 and 3.1.2)

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Ref No	Method of Measurement of Bending Dimensions	Approx. Total Length of Bar (L) Measured Along Centre Line	Sketch And Dimensions to be Given In Schedule
A		$A + E + 1 \frac{1}{2} D + 2H$	
B		If angle with horizontal is 45 degree or less, $A + E$	
C		If angle with horizontal is 45 degree or less and R is 12d or less $A + E + 2H$ If angle is greater than 45 degree and R exceeds 12d, L to be calculated	

Dimension Y should be practical dimensions to enable the angle of the bend to be determined

Hook Up ← Hook Down ↘ (T-VI, Cl. 3.1 and 3.1.2)

SESSION 3:

BAR BENDING SCHEDULING BY MR. SATISH JETHWANI

Structural Consultant, EZ Engineers P. Ltd., Vadodara

SUMMARY OF DISCUSSION DURING EXPERT SESSION NO 3

- Cost Estimating and Budgeting,
- Accuracy of Cost Estimates,
- Elements of cost estimate and budget,
- Cost overruns and reasons,
- Project Cost Accounting System (PCAS),
- Harrison* has listed the reasons for cost escalations:
- Uncertainty and lack of accurate information;
- Change in design or requirements;
- Economic and social variables in the environment;
- Work inefficiency and poor communication;
- Lack of control;
- Ego involvement of the estimator; and
- Kind of project contract.

SESSION PHOTO GALLERY



STAFF MEMBERS WITH STUDENTS



WELCOME TO DIRECTOR SHRI. SANJAY SHRIMALI



INAUGURAL FUNCTION



SESSION BY PROF. AMIT N. BHAVSAR



SESSION BY MR. SATISH JETHWANI



SESSION PHOTO GALLERY



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