

1. Name and Photograph Dr. V.V.L. Kanta Rao

2. Designation and complete address including email id.

Senior Principal Scientist
Bridge Engineering and Structures (BES) Division
CSIR-Central Road Research Institute
P.O. CRRI, Mathura Road
New Delhi-110025
E-mail ID: vvlkrao.crri(at)nic.in



vvlkrao.crri(at)gmail.com (alternate)

3. Areas of Interest Preferably two but not more than three

- Cement Concrete Technology and New Materials in Cement Concrete
- Cement Concrete Durability and Repair of Cement Concrete
- Non-destructive Testing of Cement Concrete

4. Educational Qualification – starting from the highest degree

Qualification	Specialization / Subject(s)	Year	University / Institute
Ph.D	Civil Engg. Materials	1992	IIT, Delhi
M.Sc	Chemistry	1985	IIT, Bombay
B.Sc	Maths, Physics and Chemistry	1983	Osmania University, Hyderabad
Intermediate	Maths, Physics and Chemistry	1980	Andhra Pradesh
S.S.C	-	1978	Andhra Pradesh

5. Professional Experience - in reverse chronological order

Grade/Post	Estt./Lab/Instt.	Duration
1.Senior Principal Scientist	CSIR-CRRI	From 03-06-2013
2. Principal Scientist	-do-	03-06-2007 – 02-06-2013
3. Scientist E-I	-do-	03-06-2001 – 02-06-2007
4. Scientist C	-do-	03-06-1997 – 02-06-2001
5. Scientist B	-do-	03-06-1993 – 02-06-1997
6. Fellow Scientist	-do-	05-12-1991 – 02-06-1993

6. Membership to Professional Bodies

- Life Member, Indian Roads Congress (IRC)
- Life Member, Indian Concrete Institute (ICI)
- Life Member, Society for Advancement of Electrochemical Science and Technology (SAEST)
- Life Member, Indian Geotechnical Society (IGS), Delhi Chapter

7. Achievements

a. Honours and Awards

- Honorary reviewer of technical papers of American Concrete Institute (ACI)
- Honorary reviewer of technical papers of Indian Concrete Journal (ICJ)
- Recipient of best paper award in CORCON Conference in the year 2000

b. Research Projects – in the following format

As Project Leader / Co-Project Leader

1. Critical evaluation of Fusion bonded epoxy coated reinforcement and other protective coatings on reinforcements.

- The research results helped the Ministry of Roads, Transportation and Highways (Govt. of India) issued a circular advising use of fusion bonded epoxy coated reinforcement in RCC structures within 15 km from coastal line.
- This work was also referred in the “Guidelines for Corrosion Prevention, Monitoring and Remedial Measures for Concrete Bridge Structures” published by Indian Roads Congress (IRC) as SP:80 - 2008

2. Preparation of Draft Specifications for usage of High Performance Concrete (HPC) for pavements and bridges using indigenously available materials.

3. Determination of Creep of M 60 Grade Cement Concrete through Laboratory investigation

4. Evaluation of Recron 3 S polyester fibre for use in paving grade cement concrete (Phase I – Laboratory study & Phase II – Semi field study)

5. Preparation of guidelines, specifications and manual of practice for repair of cracks and spalls in concrete structures

6. Assessment of Rapid Chloride Penetration of concrete specimen extracted from a dam site

7. Development of a technique for diagnostics of corrosion related distress in concrete through NDT
8. Evaluation of corrosion rate of steel of a silo in Kochi
9. Visual inspection of Type B and Type C staff quarters at CRRI staff colony, Maharani Bagh, New Delhi
10. Non-Destructive Testing of Water Tank in MBSQ, Maharani Bagh, New Delhi
11. Non-Destructive Testing of Multistory Building in MBSQ, Maharani Bagh, New Delhi
12. Investigation Evaluation of piers and pier caps of Bisuhi Bridge on NH-96 (Faizabad-Allahabad Road), U.P
13. Assessment of structural integrity of piles and quality control of construction of a 4 lane pre-stressed concrete girder bridge at RD 450 across Gurgaon Canal Feeder
14. Evaluation of corrosion of steel in concrete through Galva-pulse and Gravimetric method
15. Non-destructive Testing of Broken Electric Poles in the premises of Nebsarai Police Station, Nebsarai, New Delhi
16. A study on the corrosion susceptibility of steel reinforcement protected with anti-corrosive coatings / special treatments in ordinary and high performance concrete
17. Development of specifications for rice husk ash for use as cementitious admixtures through laboratory study.
18. Evaluation of silane based water proofing coatings for concrete
19. Preliminary inspection of two bridges on NH 203
20. Preliminary inspection for NDT and core testing of Kamnasha and Durgawati bridges on NH-2 (Bihar)
21. Evaluation of condition of Ranjit Singh Flyover connecting Barakhamba Road and Mata Sundri Road, New Delhi

As Member

1. Application of advanced composite fibre reinforced plastic materials in strengthening and rehabilitation of concrete bridges
2. Non-destructive evaluation of Narmada bridge on NH-8 near Zadeshwar (Bharuch)
3. Orientation course on quality aspects of Concrete Pavement Construction (for Engineers of Municipal Corporation of Greater Mumbai)

4. Performance evaluation study of Concrete Pavements (some test procedures)
5. Non-destructive testing of Ranholla (Service) bridge in West Delhi.
6. Non-destructive testing of slag road bridge on Kalimati road in Jamshedpur.
7. Investigation of distress to Khalghat bridge across river Narmada on NH-3.
8. Evaluation of cement concrete roads in Brihan Mumbai area laid during 1989-93
9. Operational rating of Zuari bridge (Span P-5) on NH-17
10. Technical evaluation of Magnesium Phosphate cement concrete mix
11. Non-destructive evaluation and operational rating of Borad bridge on NH-3
12. Repair of cracks in car parking area of HUDCO place in New Delhi
13. Monitoring of the long spans of second road bridge (North carriageway) across Thane Creek, Mumbai, under known superimposed live loads
14. Long term performance monitoring of Ganga Bridge at Varanasi (summer cycles)
15. Long term performance monitoring of Loknayak Setu bridge in New Delhi
16. Quality assurance and health monitoring of 6 lane roadway over Palam drain in Dwarka in New Delhi
17. Development of high performance smart concrete
18. Non-destructive evaluation and load testing of a bridge on SH-14 near Garh Mukteshwar, U.P
19. Operational Rating of Central Ganga Canal on SH-14 near Garh Mukteshwar, U.P
20. Evaluation of Wollastonite in cement concrete works
21. Load testing and corrosion study of span P-5 of Zuari Bridge on NH-17 (Goa)
22. Evaluation and monitoring of bridges for increased axle loads of freight wagons on iron ore routes of South Eastern Railway
23. Distress diagnostics, Performance Evaluation and BMS for concrete Bridges
24. Rehabilitation of Sultanpuri bridge at RD 21260m of Supplementary Drain, Delhi
25. Assessing condition of distressed bridge at Kangsabati Bridge on NH-6

26. 11th Plan Supra-Institutional Project: Development of management system for maintenance planning and budgeting of high speed road corridors – BMMS module
27. Evaluation of Kalisindh bridge for increase in axle load of freight wagons on the routes of West Central Railway (WCR)
28. Technical support in the investigation of RC-4(a)/2011/AC-iii/CBI/ New Delhi
29. Repair and Rehabilitation of Old ITO Bridge over River Yamuna (Delhi) - 3rd Party Random Quality Check and Inspection.
30. Assessment of load carrying capacity of the bridge at RD 07.150 km Agra Canal, Faridabad

- c. Research Publications (in two parts, Papers in Journals and papers in Conferences) in the following format

Journals

- (1) V.V.L Kanta Rao and S. Krishnamoorthy (1993) “Aggregate mixtures for least void content for use in polymer concrete”. Cement, Concrete and Aggregates (ASTM Journal), CCAGDP, Vol. 15, No.2, Winter, pp. 97-107.

This work was cited / referred in following two books.

Title: Concrete mixture proportion. A scientific approach
Author: Francois de Larrard
Year: 1999
Publisher: E & F N Spon, London and New York
Page: 35

Title: Computer modeling of concrete mixtures
Author: J.D. Dewar
Year: 1999
Publisher: E & F N Spon, London and New York
Pages: 26 & 154

And has been cross-referred by many authors in their research papers on the above topic.

- (2) V.V.L. Kanta Rao and S.Krishnamoorthy (1998) “Influence of resin and microfiller proportions on strength, density and setting shrinkage of polyester polymer concrete”,. Journal of the American Concrete Institute, Structural Journal, Vol. 95, No. 2, March-April 1998, pp. 143-152.
- (3) V.V.L. Kanta Rao, S.K. Sharma, Sushil Kumar, Narendra Kumar and M.V.B. Rao (1999), “Non-destructive testing of concrete structures – A few case studies”,

Advances in Structural Engineering, Edited by S.K. Kaushik, 1999, pp. 210 – 224, Phoenix Publishing House Pvt. Ltd., New Delhi.

- (4) Ram Kumar, V.K. Ghanekar, G.K. Sahu, A.K. Pandey, M.V.B. Rao, S.K. Sharma and V.V.L.K. Rao (1999) “Structural integrity and rehabilitation of Khalghat Bridge”, , The Bridge & Structural Engineer, Journal of Indian National Group of IABSE, Vol. 29, No. 1, March 1999, pp. 17-26.
- (5) M.V. Bhaskara Rao, Dr. V.V.L. Kanta Rao, Sushil Kumar and Narender Kumar (2002) “A study on the relative performance of anti-corrosive coatings on concrete reinforcements”, , Highway Research Bulletin, Highway Research Board, Indian Roads Congress, No. 67, December 2002, p. 121-144.
- (6) Ram Kumar, M.V.B. Rao, R.K. Garg, G.K. Sahu and V.V.L. Kanta Rao (2004), “Retrofitting of a three span two girder PSC bridge” , The Journal of Indian National Group of International Association of Bridge and Structural Engineers (ING-IABSE), Vol. 34, No. 4, December 2004, pp. 57-70.
- (7) Ram Kumar, R.G. Garg, G.K. Sahu, V.V.L. Kanta Rao, and M.V. B. Rao (2005), “Evaluation and rehabilitation of PSC girder bridges Evaluation and rehabilitation of PSC girder bridges” Construction Journal of India, Saket Publications, Ahmedabad, September 2005, pp. 45-50.
- (8) V.V.L. Kanta Rao, M.V.B. Rao, Satander Kumar, and S.P. Pokhriyal (2006) “Structural evaluation of cement concrete roads in Mumbai city”, Journal of Performance of Constructed Facilities, American Society of Civil Engineers, ASCE, USA, Vol. 20, NO. 2, May 2006, pp. 156-165.
- (9) V.V.L. Kanta Rao and Rakesh Kumar (2007) “Maturity of concrete and its uses in Highways”, Indian Highways, Indian Roads Congress, July 2007, P. 13-20
- (10) Saroj Gupta, V.V.L. Kanta Rao, and J.B. Sen Gupta (2008) “Evaluation of polyester fiber reinforced concrete for use in cement concrete pavement works”, , International Journal of Road Materials and Pavement Design”, 2008, Vol. 9, No. 3, July-september, 2008, pp. 441-461.
- (11) Dr. S.K. Sharma, Dr. Ram Kumar, Dr. V.V.L Kanta Rao, Dr. S. Saha, and Mr. J.K. Goel (2009) “Operational load testing and evaluation of reinforcement corrosion of Span P5 of Zuari bridge in Goa” , Indian Highways, April 2009, A publication of Indian Roads Congress.
- (12) Dr. V.V.L. Kanta Rao, Dr. Lakshmy P, and Dr. S. Gangopadhyay (2009), “Polyester fiber waste as secondary reinforcement in concrete pavements”, Journal of New Building materials and construction world, Vol. 15, No. 6, December 2009, 69-80.
- (13) Rao, V.V.L.K., Surya, M., Lakshmy, P., (2013), “Recycled Concrete Aggregate in Concrete pavement Construction – An Innovative Approach for sustainable development”, Indian Highways Annual Number, Indian Roads Congress, Vol.41, No.1, ISSN 0376 – 7256, pp – 57 - 62.

- (14) Surya, M., Rao, V.V.L.K. and Lakshmy, P. (2013), "Recycled Aggregate Concrete for transportation Infrastructure", *Procedia - Social and Behavioral Sciences*, Elsevier, Volume 104, 2 December 2013, pp 1158-1167.
- (15) Rao, V.V.L.K., Surya, M., and Lakshmy, P. (2014), "Recycled Concrete Aggregate: A Sustainable Alternative to Natural Aggregate", *International Journal of 3R's*, Vo; 5, No. 1, Jan-Mar, P 683-691 2014.
- (16) Lakshmy, P., Surya, M., and Rao, V.V.L.K. (2014), "Experimental Evaluation of Models for Prediction of Concrete Properties used in IRC 112 for Bridge Design", *Journal of Indian Association of Bridge and Structural Engineers (ISBSE)*, Vol 44, No. 2, June, 2014, P 110-119.
- (17) Surya, M, Kanta Rao, VVL. and Lakshmy, P. (2015), "Mechanical, Durability and Time Dependant Properties of Recycled Aggregate Concrete with Fly Ash, *ACI Materials Journal*, V. 112, No. 5, September-October, 2015, P. 653-661.
- (18) Kanta Rao, V.V.L. (2015), "Corrosion preventive methods adopted for concrete bridges during construction", *New Building Materials and Construction World*, Vol 21, No. 3, September 2015, p. 170-177.

Conferences

- (1) S. Krishnamoorthy and V.V.L. Kanta Rao (1993) "Minimisation of voids content and optimisation of microfiller content in a polymer concrete mix design",. *International Symposium on Innovative World of Concrete (ICI-IWC-93)*, organised by Indian Concrete Institute, August 1993, Bangalore, pp. 3-253 to 3-262.
- (2) M.V.B. Rao, M.S.M. Ali and V.V.L. Kanta Rao (1994) "Rehabilitation of structurally damaged concrete bridges", *International Seminar on Failures, Rehabilitation and Retrofitting of Bridges and Aqueducts*, organised by Indian Association of Bridge Engineers, November 1994, Bombay, Vol. 2, pp. 91-101.
- (3) V.V.L. Kanta Rao and M.V.B. Rao (1995) "Concrete repair materials",. *National conference on civil engineering materials and structures*, organised by Osmania University, Hyderabad, January 1995, pp. 135-140.
- (4) V.V.L. Kanta Rao and M.V.B. Rao (1996) "An overview of Strategic Highway Research Programme's contribution on concrete and structures",. *National seminar on rehabilitation of structures*, organised by The Institution of Engineers (India), A.P. State Centre, Hyderabad, September, 1996, pp. 236-240.
- (5) V.V.L. Kanta Rao (1997) "Setting shrinkage of polyester polymer concrete; effect of resin and microfiller proportions",. *International conference on maintenance and durability of concrete structures*, organised by Jawaharlal Nehru Technological University, Hyderabad, March 1997, pp. 174-178.

- (6) V.V.L. Kanta Rao and M.V.B. Rao (1999) “Recent advances in materials and methods for repair & rehabilitation of corrosion affected concrete structures”, , Proceedings of the 5th International Conference on Concrete Technology for Developing Countries, November 17-19, 1999, New Delhi, pp. VII-12 – VII-21.
- (8) V.V.L. Kanta Rao, Sushil Kumar, Narendra Kumar and M.V. Bhaskara Rao (2000) “An experimental studies on relative performance of anti-corrosive coatings on reinforcements”, Proceedings of CORCON 2000 International Conference_ Mumbai, 20-23, November, 2000, pp. 649-658.

This paper was chosen for the best paper award in the conference.

- (7) V.V.L. Kanta Rao, Satandar Kumar and M.V. Bhaskara Rao (2000) “Use of mineral admixtures to control the reinforcement corrosion in concrete structures”,. Proceedings of 7th NCB International Seminar on Cement and Building Materials, New Delhi, 21-24, November, 2000, pp.IX B-23 to IX B-31.
- (8) V.V.L. Kanta Rao, S.S. Gaharwar, Ram Kumar and M.V.B. Rao (2002) “Service Life Prediction of Prestressed Concrete Bridges through On-Site Corrosion Monitoring – Potentials and Applications”, , CORCON 2002 (East Asia Pacific Regional Conference on Corrosion), Goa, India, November 2002.
- (9) Saroj Gupta, V.V.L. Kanta Rao, J.B. Sen Gupta (2003) “Fly ash Based Blended Cement Concrete for Reinforced Concrete Structures”, , Proceedings of the International Conference on Corrosion (CORCON-2003), Mumbai
- (10) V.V.L. Kanta Rao, M.V.B. Rao (2003) “Structural Evaluation of Concrete Roads in Mumbai City: A case study”, Proceedings of National Conference on Modern Cement Concrete and Bituminous Roads, Visakhapatnam, December, 2003
- (11) V.V.L. Kanta Rao, G.K. Sahu and Ram Kumar (2004), “Corrosion monitoring in concrete structures through embedded / surface mounted probes”, Proceedings of the International Conference on Corrosion (CORCON-2004), New Delhi
- (12) Dr. Saroj Gupta, Dr. V.K. Sood, Dr. V.V.L. Kanta Rao, and Mr. J.B. Sen Gupta (2005) “Fly ash based Portland pozzolana cement in concrete pavement construction – Technical and economic aspects”, Proceedings of National seminar on building materials and technology for sustainable development organized at Ahmedabad during 21-22 January 2005 by Ambuja Cement, BMTPC and School of Building Science & Technology (Centre for environmental planning and technology, Ahmedabad) and published by Allied Publishers Pvt. Ltd., pp. 118-129.
- (13) Saroj Gupta, V.V.L. Kanta Rao, J.B. Sen Gupta (2008) “Polyester fiber waste as reinforcing admixture in concrete for use in road works, Proceedings of International Conference on Innovative World of Concrete -08, held in Noida, U.P, organized by Indian Concrete Institute.
- (14) V.V.L. Kanta Rao (2009) “Current trends in condition evaluation of post-tensioned cable in PSC structures” Paper presented in the National conference on corrosion

assessment and its control (NCAC-09), held during 21-22, December 2009, at Madurai, Tamilnadu

- (15) Dr. V.V.L. Kanta Rao, Sushil Kumar, Narender Kumar and Dr. Lakshmy, P. (2010), "Portland cement rahit sanrachanatmak concrete - Hindi (Structural concrete without Portland cement)", Proceedings of Raashtriya Sangoshti (National conference) on Nirmaan Saamaagriyan – Vision 2030 (Building materials – Vision 2030), held in CRRI, New Delhi, March 2010.
- (16) Dr. V.V.L. Kanta Rao and Dr. Lakshmy, P (2011) "Corrosion of post-tensioned tendons in concrete bridges – duct detection, tendon access and tendon testing" - Proceedings of National conference on repair and rehabilitation of concrete structures, organised by Indian Concrete, Institute (Ghaziabad Chapter), May 2011.
- (16) Dr. V.V.L. Kanta Rao, Ms. Surya Maruthupandian, and Dr. Lakshmy P (2012), "Recycled Concrete Aggregate and its use in Construction of Concrete , Pavements", Proceedings of National Seminar on Cement concrete roads and white topping", organised by Cement Manufacturers Association and CRRI, August, 2012.
- (17) Surya, M., Kanta Rao, V.V.L., and Lakshmy, P. (2012), "Properties of Recycled Aggregate Concrete and its Use in Buildings & other Structures", 28th convention and National seminar on Role of Infrastructure for sustainable development, Institution of Engineers, Roorkee, 12 – 14 October 2012.
- (18) Kanta Rao, V.V.L., Surya, M., Lakshmy, P., (2013), "Recycled Concrete Aggregate from Construction and Demolition Waste – Needed Impetus for its use in Concrete", Proceedings of International Workshop on Construction and Demolition Waste Recycling, August 2013, pp – 83-92.
- (19) Kanta Rao, VVL, Lakshmy P, RK Garg and S. Gangopadhyay (2015), "Cathodic Protection for prevention and rehabilitation of reinforcement corrosion in concrete structures", International Conference on Corrosion (CORCON- 2014), 12-15 November 2014, Mumbai, organised by national Association of Corrosion Engineers (NACE)
- (20) Surya, M., Rao, V.V.L.K. and Lakshmy, P. (2013), "Studies on Recycled Aggregates in India – An Overview and Prospectus", Proceedings of IC- ACI & RN Raikar Memorial International Conference and S.P Shah symposium on Advances in science and Technology of Concrete, December 2014, Mumbai, pp 456-463.
- (21) Surya, M., Lakshmy, P. and Rao, V.V.L.K. (2014), "Study On Some Engineering Properties Of Recycled Aggregate Concrete With Flyash", Structural Engineering Convention, December 2014, IIT Delhi.
- (22) Surya, M., Lakshmy, P. and Kanta Rao, V.V.L. (2014), "Durability Properties of Recycled Aggregate Concrete Containing Flyash", 2nd International Congress on Durability of Concrete, December 2014, Norwegian Concrete Association.
- (23) Kanta Rao, VVL, Sushil Kumar, Lakshmy P, and RK Garg (2014), "A Laboratory Study on the Performance of Silane Based Hydrophobic Coatings on Concrete", 2nd

International Congress on Durability of Concrete, December 2014, Norwegian Concrete Association.

(24) Lincy Varghese, Rao, V.V.L.K., and Lakshmy, P (2014), “An overview of effects of nanosilica on durability of concrete”, 2nd International Congress on Durability of Concrete, December 2014, Norwegian Concrete Association

(25) Lincy Varghese, Rao, V.V.L.K., and Lakshmy, P (2015), “A comparative study on the effects of nanosilica and microsilica in concrete”, 4th Acean Conference on Ecstasy in Concrete, 7-10, October, 2015, Kolkatta, organised by Indian Concrete Institute.

(26) Kanta Rao, VVL., (2016), “Recycled Concrete Aggregates and Developments in India”, Key Note Address, Internal National Conference on Advances in Civil Engineering and Sustainable Construction”, 30th March – 1st April, 2016, Chennai, organised by and at SRM University, Ramapuram Campus, Chennai.

d. Any Other information – whatever you feel should be displayed on the website (like courses conducted, lectures delivered outside, keynote speech, member of editorial boards, etc. etc.)

(1) Professor of Academy of Scientific and Innovative Research (AcSIR) at CRRI, and Teaching Faculty of course on Advanced Concrete Technology and Advanced Highway Engineering materials.

(2) Contributed a chapter on “Monitoring of corrosion in bridge structures” in the technical report IRC SP-80 -2008 of IRC B-8 Committee on Bridge Maintenance and Rehabilitation.

(4) Serving as a Member–Technical of IRC Maintenance and Rehabilitation (B-8) committee since 2009.

Involved in revision of IRC-SP 37 (Guidelines for evaluation of load carrying capacity of bridges), and IRC-SP-51 (Load Testing of Bridges).

(4) **As academician / research scientist**, supervised / guided or supervising / guiding the following students for their **thesis work/ dissertation / training** :

Ph.D

S.No.	Student	Institute	Broad Topic	Status
1.	Ms. Lincy Varghese	AcSIR-CRRI	High Volume fly Ash Concrete	In progress
2.	Mr. Dinesh Kumar	AcSIR-CRRI	Recycled Aggregate Concrete	In progress
3.	Ms. Beenu Raj	AcSIR-CIMFR & AcSIR-CRRI	Waste Plastic Recycling	In progress

M.Tech

S. No.	Name of student	Institute	Thesis / Dissertation/ - Title	Current status
1.	Mr. Abdul Razak S	Sree Buddha College of Engineering, Kochin, Kerala	Improvement of durability of concrete through water repellent concrete coatings	In progress
2.	Mr. Arun Kumar Kashyap	Gautam Budha University, Noida	Study on high early strength high volume fly ash concrete using microfine slag	In progress
3.	Mr. Amresh Kumar	Delhi Technical University	Experimental study to stop corrosion in rcc member through sacrificial anode repair method	In progress
4.	Ms. Lincy Varghese	AcSIR-CRRI	- Experimental Investigation on Structural Properties of Nanosilica Added High Performance Concrete	Completed
5.	Mr. Stephen Varghese	Karunya University - Coimbatore	Study on the effects of partial replacement of cement with Rice Husk Ash in concrete	Completed

6.	Ms. Surya M.	AcSIR-CRRI	Experimental investigation on structural properties of recycled aggregate concrete	Completed
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B.Tech Thesis / Industrial Training

S. No.	Name of student	Institute	Thesis / Dissertation/ - Title	Current status
1.	Mr. Sumeet Jain	CEPT University - Ahmedabad	Thesis - Study of strength and porosity of carbon fibre reinforced concrete specimens	Completed
2.	Mr. Varun Kumar, Mr. Hemant Kumar Patel, Mr. Vikas Kumar	NIT, Srinagar	Six weeks Industrial Practical Training	Completed
3.	Abhishek kumar, Alok kumar jha	NIT, Srinagar	Six weeks Industrial Practical Training	Completed
4.	Asfan Saeed Khan	Integral University, Lucknow	Four weeks Industrial Practical Training	
6.	Mohd. Shariq Arun Singh Choudhary	Sharda University, Gr. Noida	Seven weeks Industrial Practical Training	Completed
7	Sanyam Bhandari	Uttaranchal Institute of Technology, Dehradun	Six weeks Industrial Practical Training	Completed

ITI Training

S. No.	Name of student	Institute	Thesis / Dissertation/ - Title	Current status
1.	Ranju Kumari, Shikha Aggarwal, Roshi Verma	Kasturba Polytechnic for Women, Pitampura, New Delhi	Diploma- Six weeks Industrial Practical Training	Completed

(5) **External Examiner** for M.Tech thesis of Department of Civil Engineering, I.I.T., Delhi

Titles of thesis examined:

- (i) Particle size distribution and shape analysis of fly ash blended cements
- (ii) Pavement quality control: Behaviour, site problems and solutions

(6) **Co-chaired** a technical session on “Corrosion of steel in concrete structures” and also a panel member in a technical workshop on the same topic in CORCON-2004 (International conference on corrosion).

Co-chaired a technical session at the National conference on corrosion assessment and its control (NCAC-09) held during 21-22, December 2009 at Madurai, Tamilnadu.

Co-Chaired a Technical Session at 2nd Conference of Transportation Research Group (CTRG), December 2013, held at Agra.

Chairman of Symposium on Corrosion in Reinforced Concrete of International Conference on Corrosion (CORCON-2014), held during 30th September-2nd October, in New Delhi.

Chairman of a Technical Session at 4th Acean Conference on Ecstasy in Concrete, 7-10, October, 2015, Kolkatta, organised by Indian Concrete Institute.

Chairman of Technical Sessions at the Internal National Conference on Advances in Civil Engineering and Sustainable Construction, 30th March – 1st April, 2016, Chennai, organised by and at SRM University, Ramapuram Campus, Chennai.

(7) Key Note Lecture Delivered on Recycled Concrete Aggregates and Developments in India, at Internal National Conference on Advances in Civil Engineering and Sustainable Construction, 30th March – 1st April, 2016, Chennai, organised by and at SRM University, Ramapuram Campus, Chennai.

(8) **Established** corrosion and NDT laboratory in CRRI and procured many relevant equipment including FTIR, XRF, GECOR, Galva Pulse, Potentiometric Titrator, Maturity meter, Boroscope, Mercury Intrusion Porosimeter, Concrete profile grinder, Salt spray chamber, etc.

(9) **Invited Lectures delivered outside CRRI:**

S. No.	Title of lecture	Delivered at	Month and Year
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1.	Quality control aspects of concrete construction in culverts, bridges and other pucca works on canals” during a refresher course on Quality control aspects of irrigation projects	Central Water Commission, New Delhi	September 2003
2.	Non-destructive Testing of Concrete Structures	IRCON Training Centre, Gurgaon, Haryana.	July, 2004
3.	Managing Disaster Mitigation measures including arresting spread of corrosion in Operational Bridges with practical case Studies	Indian Academy of Highway Engineers (IAHE), Noida	November 2011
4.	Quality Control Aspects for sustainable Flyovers & Bridges and Maintenance Management for during & Post construction	Indian Academy of Highway Engineers (IAHE), Noida	November 2011
5.	Quality Control Aspects for sustainable Flyovers & Bridges and Maintenance Management for during & Post construction	Indian Academy of Highway Engineers (IAHE), Noida	March 2012
6.	Corrosion of steel in concrete	Sharada University	March 2012
7.	Corrosion of steel reinforcement in concrete structures	Indian Association of Structural Engineers, New Delhi	August 2012