**UGC-Malaviya Mission Teacher Training Centre**

**Himachal Pradesh University, Shimla-5**

2-Week RC on Mathematics & Statistics (RC-349)

w.e.f. 12.02.2024 – 24.02.2024

Programme Team: Prof. D. R. Thakur, Director

Prof. Jyoti Prakash, Course Coordinator

Prof. Khem Chand, Course Co-Coordinator

Dr. Ashwani Kumar, Assistant Director

Timings of Technical Sessions (TS):

Warming-up Session: (i) 09.45 a.m. to 10.00 a.m. (Yoga & Meditation)

(ii) 10.00 a.m. to 10.30 a.m. (Reflection on previous day)

TS – I 10.30 a.m. to 12:00 noon TS – II 12.00 noon to 01.30 p.m.

TS – III 02.00 p.m. to 03.30 p.m. TS – IV 03.30 p.m. to 05.00 p.m.

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| **Date & Day** | **TS** | **Topic** | **Resource Person** |
| 12.02.2024 (Monday) | I | Inaugural Session | **Chief Guest:** Prof. B.K. Shivram, Dean of Studies, HP University, Shimla-05. |
| II | Setting the Tone | Dr. Ashwani Kumar, Assistant Director, UGC-MMTTC, H.P. University, Shimla |
| III | Breaking the Ice |
| IV | Complex numbers, symmetric polynomials and Regular polygons. | Prof Rajesh Sharma, Deptt. Of Mathematics HPU Shimla-05  Rajesh\_hpu\_math@yahoo.co.in |
| 13.02.2024  (Tuesday) | I | Breaking the Ice and Committee formulation | Dr. Ashwani Kumar, Assistant Director, UGC-MMTTC, H.P. University, Shimla |
| II | Logics | Prof R.P. Sharma, Retd. Prof., Deptt of Mathematics HPU Shimla-05  rp.math.hpu@gmail.com |
| III | Thermoelastity: Fundamental Principles to......Mathematical Modelling | Prof Praveen lata, Head, Deptt of Mathematics, Punjabi University. Patiala.  parveenlata@pbi.ac.in |
| IV | How is mathematics used for transmitting data? | Prof Gurmeet Bakshi, Head, Deptt of Mathematics, Punjab University, Chandigarh.  gkbakshi@pu.ac.in |
| 14.02.2024 (Wednesday) | I | Importance of Yoga (for yoga teacher) | DR. S. P. Pathak, Department of Yoga, HPU, Shimla-05  drpathak78@gmail.com |
| II | System of Differential Equations | Prof. Anil Vashishtha, Deptt. Of Mathematics, Kurukshetra University, Kurukshetra akvashishth@kuk.ac.in |
| III | Importance of Vipassana Meditation for Educators. | Prof Jyoti Prakash, Deptt of Mathematics HPU Shimla-05 |
| IV | Introduction to ordinary differential equations. | Prof Vinay Kanwer, University Institute of Technology, Deptt of Mathematics, Punjab University, Chandigarh.  vmithil@yahoo.co.in |
| 15.02.2024 (Thursday) | I | Research Ethics and Academic Integrity | Prof. Joginder Saklani, Associate Professor, Deptt. of Political Science, ICDEOL, HP University, Shimla  jogindersinghsaklani@gmail.com |
| II | Individual Presentations | Dr. Madhu Dadhwal, Assistant Professor, Deptt. of Mathematics and Statistics, HP University, Shimla  mdadhwal.math@hpuniv.ac.in |
| III | An introduction to composition operator | Prof Romesh Kumar, Head, Deptt of Mathematics, University of Jammu, Jammu.  romeshmath@gmail.com |
| IV | Generalized convexity and optimization | Prof S.K. Mishra, Deptt of Mathematics, Banaras Hindu University, Banaras.  shashikant.mishra@bhu.ac.in |
| 16.02.2024  (Friday) | I | Nature inspired techniques | Prof Satyabir Singh, Deptt of Mathematics, Punjabi University. Patiala  [sbsingh69@yahoo.com](mailto:sbsingh69@yahoo.com)  sbsingh69@rediffmail.com |
| II | Research Methodology | Dr. Gagandeep Singh, Assistant Professor, Deptt. of Mathematics, Panjab University, Chandigarh  rahigs@pu.ac.in |
| III | Boundary eigenvalue problems involving ODEs: Maclaurin Series solution | Prof P. G. Siddheshwar, Senior Prof. of Mathematics, CHRIST (Deemed to be University), Bangalore, 560029.  pg.siddheshwar@christuniversity.in |
| IV | Elementary root- finding algorithms | Prof Vinay Kanwer, University Institute of Technology, Deptt of Mathematics, Punjab University, Chandigarh. |
| 17.02.2024  (Saturday) | I |  | Prof. Anil Vashishtha, Deptt. Of Mathematics, Kurukshetra University, Kurukshetra  akvashishth@kuk.ac.in |
| II | Individual Presentations | Prof. R. G. Shandil, Retd. Professor, Deptt. of Mathematics and Statistics, HP University, Shimla  r.g.shandil@gmail.com |
| III | Individual Presentations | Prof. J.R. Gupta, Retd. Professor, Deptt. of Mathematics and Statistics, HP University, Shimla |
| IV | Generalized monotonicity and applications | Prof S.K. Mishra, Deptt of Mathematics, Banaras Hindu University, Banaras.  [shashikant.mishra@bhu.ac.in](mailto:shashikant.mishra@bhu.ac.in)  bhu.skmishra@gmail.com |
| 19.02.2024 (Monday) | I | Statistical Measures: Numerical Descriptors & ANOVA (Analysis of Variance) | Prof. Piyush Kant Rai, Deptt of Statistics, Banaras Hindu University, Banaras  [Raipiyush5@gmail.com](mailto:Raipiyush5@gmail.com)  Piyush.rai01@bhu.ac.in |
| II | Unlocking the mysteries of Vedic Mathematics: A comprehensive exploration. | Dr. Pushap Lata, Associate Prof. Deptt. Of Mathematics HPU Shimla-05  [pl\_maths@yahoo.in](mailto:pl_maths@yahoo.in) |
| III | Individual Presentations | Ms. Mehak Mahajan, Assistant Professor, Deptt. of Mathematics and Statistics, HP University, Shimla  mahajanm826@gmail.com |
| IV | Individual Presentations | Prof. M.G. Gorla, Retd. Professor, Deptt. of Mathematics and Statistics, HP University, Shimla  m.g.gorla@gmail.com |
| 20.02.2024 (Tuesday) | I | Linear stability theory of a Fluid  Layer Heated from Below:  The Rayleigh-Benard Problem | Prof. Jyoti Prakash, Department of  Mathematics &amp; Statistics, HPU, Shimla-05  jpsmaths67@gmail.com |
| II | Hamiltonian formulation of classical mechanics | Prof. Khem Chand, Deptt. of Mathematics, H.P. University Shimla |
| III | Finite fields and their applications | Dr. Shalini Gupta, Associate Prof. Deptt. Of Mathematics HPU Shimla-05  shalini.garga1970@gmail.com |
| IV | Hidden Talent | |
| 21.02.2024 (Wednesday) | I | Statistical Measures: Numerical Descriptors and ANOVA–II | Prof. Piyush Kant Rai, Deptt of Statistics, Banaras Hindu University, Banaras  [Raipiyush5@gmail.com](mailto:Raipiyush5@gmail.com)  Piyush.rai01@bhu.ac.in |
| II | Research Methodology , Basics of Statistics and introduction to SPSS | Prof. Suresh Sharma, Deptt. of Mathematics, Panjab university, Chandigarh  ssharma643@yahoo.co.in |
| III | Correlation and Regression | Prof. Suresh Sharma, Deptt. of Mathematics, Panjab university, Chandigarh  ssharma643@yahoo.co.in |
| IV | Individual Presentations | Dr. Arti Manglesh, Assistant Professor, ICDEOL, HP University, Shimla-05. |
| 22.02.2024 (Thursday) | I | Importance of Mathematics and Physics in today’s Computer Science | Prof Mahavir Singh, Deptt of Physics, HPU Shimla-05  mahavirhpu@gmail.com |
| II | Fuzzy Systems in Group Discussion making | Prof R.P. Sharma, Retd. Prof Deptt of Mathematics HPU Shimla-05  rp.math.hpu@gmail.com |
| III | Regression Models for prediction | Prof. Amarnath Gill, Panjab University Chandigarh  amarnathgill@gmail.com |
| IV | Data Exploratory Techniques-I,  Data Exploratory Techniques-II |
| 23.02.2024 (Friday) | I | Positive Maps and Eigen Values of  Matrices | Prof Rajesh Sharma, Deptt. of Mathematics HPU Shimla-05  rajesh\_hpu\_math@yahoo.co.in |
| II | Curriculum and Pedagogy of Mathematics in Higher  Education: Insights from NEP 2020 | Prof. Rakesh, Deptt. of Mathematics, Central University of Himachal Pradesh  rakesh.lect@hpcu.ac.in |
| III | Individual Presentations | Dr. C. B. Mehta, Retd. Principal, Govt. College Sanjauli, Shimla, H. P.  chanderbmehta@gmail.com |
| IV | Teaching & Learning of Mathematics | Prof. Joginder Singh Dhiman, Deptt. of Mathematics HPU Shimla-05 |
| 24.02.2024 (Saturday) | I | Preparation Time for MCQ test: Mock Test | |
| II | MCQ Test | Dr. Ashwani Kumar, Assistant Director, UGC-MMTTC, H.P. University, Shimla |
| III & IV | Valedictory Ceremony | Chief Guest: Prof. S.K. Tomar, Vice Chancellor JC Bose University of Science and Technology, Faridabad, Haryana.  sktomar@pu.ac.in |