



MAHARSHI DAYANAND UNIVERSITY ROHTAK

(A State University established under Haryana Act No. XXV of 1975)
'A' Grade University Accredited by NAAC

No.AC-VI/17/ _____
Dated : _____

To

The Controller of Examinations,
M.D.University, Rohtak.

Sub: **Admission to Ph.D. and Award of URS in Mechanical Engineering in UIET for the session January-December, 2017.**

Sir,

I am directed to inform you that the Vice-Chancellor has approved the following new admission schedule for admission to Ph.D. and Award of URS in Mechanical Engineering in UIET:

Date of Entrance	: 13.02.2017 from 9.15 AM to 10.30 AM
Interview	: 16.02.2017
Display of Merit list	: 18.02.2017
1 st Counselling	: 20.02.2017
2 nd Counselling	: 22.02.2017
3 rd Counselling	: 23.02.2017
Counselling for Award of URS	: 25.02.2017
Payment of fee with the University Cashier	: 25.02.2017
Commencement of classes	: 27.02.2017

Further, the new syllabus as confirmed by the Director (UIET) is attached herewith duly signed by the Director (UIET) and other three Faculty members and authenticated by the Academic Branch.

Therefore, you are requested kindly to take further necessary action in this regard immediately.

Encl: As above.

Sd/-
Incharge (Academic)

Endst.No. AC-VI/17/ 2583-86 dated: 2/2/17

Copy of the above is forwarded to the following for information and necessary action:-

1. The Director (UIET), M.D.University, Rohtak with the request to ensure that all the applicants who will appear in entrance test of Ph.D. Mechanical Engineering have been informed on their contact number and e-mail id as per orders of the Vice-Chancellor on the file. Copy of syllabus is attached.
2. The Director, University Computer Centre with the request to upload this letter alongwith the new syllabus attached on the home page of the University website immediately so that the students may not suffer. (copy enclosed).
3. The Asstt. Registrar (R&S), M.D.University, Rohtak.
4. The Director, Public Relations Office, M.D.University, Rohtak. He is requested to release a Press note, without any financial burden, on the University exchequer.

Incharge (Academic)

Instructions: Paper setter is required to set twenty five questions from each section and students are required to attempt all the 100 questions.

Section :I

APPLIED MECHANICS, STRENGTH OF MATERIALS AND DESIGN :Engineering Mechanics: Free body diagrams and equilibrium; trusses and frames; virtual work; kinematics and dynamics of particles and of rigid bodies in plane motion, including impulse and momentum (linear and angular) and energy formulations; impact. Strength of Materials: Stress and strain, stress-strain relationship and elastic constants, Mohr's circle for plane stress and plane strain, thin cylinders; shear force and bending moment diagrams; bending and shear stresses; deflection of beams; torsion of circular shafts; Euler's theory of columns; strain energy methods; thermal stresses. Theory of Machines: Displacement, velocity and acceleration analysis of plane mechanisms; dynamic analysis of slider-crank mechanism; gear trains; flywheels.

Section-II

FLUID MECHANICS AND THERMAL SCIENCES Fluid Mechanics: Fluid properties; fluid statics, manometry, buoyancy; control-volume analysis of mass, momentum and energy; fluid acceleration; differential equations of continuity and momentum; Bernoulli's equation; viscous flow of incompressible fluids; boundary layer; elementary turbulent flow; flow through pipes, head losses in pipes, bends etc. Heat-Transfer: Modes of heat transfer; one dimensional heat conduction, resistance concept, electrical analogy, unsteady heat conduction, fins; dimensionless parameters in free and forced convective heat transfer, various correlations for heat transfer in flow over flat plates and through pipes; thermal boundary layer; effect of turbulence; radiative heat transfer, black and grey surfaces, shape factors, network analysis; heat exchanger performance, LMTD and NTU methods. Thermodynamics: Zeroth, First and Second laws of thermodynamics; thermodynamic system and processes; Carnot cycle irreversibility and availability; behaviour of ideal and real gases, properties of pure substances, calculation of work and heat in ideal processes; analysis of thermodynamic cycles related to energy conversion.

Section-III

PRODUCTION ENGINEERING and MANUFACTURING TECHNOLOGY Metal Casting: Design of patterns, moulds and cores; solidification and cooling; riser and gating design, design considerations. Forming: Plastic deformation and yield criteria; fundamentals of hot and cold working processes; load estimation for bulk (forging, rolling, extrusion, drawing) and sheet (shearing, deep drawing, bending) metal forming processes; principles of powder metallurgy. Joining: Physics of welding, brazing and soldering; adhesive bonding; design considerations in welding. Machining and Machine Tool Operations: Mechanics of machining, single and multi-point cutting tools, tool geometry and materials, tool life and wear; economics of machining; principles of non-traditional machining processes; principles of work holding, principles of design of jigs and fixtures, Non-conventional machining. Welding processes friction stir processing, friction stir welding, TIG welding, MIG welding, SAW welding and all advanced welding processes.

Section-IV

INDUSTRIAL ENGINEERING :Production Planning and Control: Forecasting models, aggregate production planning, scheduling, materials requirement planning. Inventory Control: Deterministic and probabilistic models; safety stock inventory control systems. Operations Research: Linear programming, simplex and graphical method, transportation model, assignment model, network flow models, simple queuing models, PERT and CPM. Supply Chain Management.

Co-ordinator Mechanical
UTAT

19.1.17

19/1/17
(Vineet Kumar)
Prof. in ME.

Prabhakar Kumar
Associate Prof.
M.C.