झारखण्ड केन्द्रीय विश्वविद्यालय
Central University of Jharkhand
(Established by an Act of Parliament of India,2009)

Center for Applied Mathematics

CUJ/CAM/NOTICE/2017/05 Date 06/11/2017

Notice

Schedule of sessional examinations for odd session semester-I papers (non-regular).
Timing for all papers: 3:00 PM-4:00 PM

Sl.No	Papers-Name (code)	Centers	Dates for Sessional		
			1st Sess.	2nd Sess.	3rd Sess.
01	Basics of Mathematics (MAT 111011)	CEVS,CLS	14-11-17	16-11-17	20-11-17
02	Fundamentals of Mathematics (MAT 111040)	CAM	14-11-17	16-11-17	20-11-17
03	FOC & C Programming (COM 110050)	CAP,CAS,CLS, CEVS, CAM,CED	15-11-17	17-11-17	21-11-17

Syllabus for Each Sessional for each Paper is attached in separate sheet.

The last date for submission of applications for each paper is 13 November 2017.

Coordinator 6/11/17
CAM
CUJ Ranchi

Copy to:
(i) Controller of Examinations
(ii) Concern Centers
(iii) Notice Boards
(iv) System Analyst for uploading on University website.

Syllabus:

Basics of Mathematics (MAT 111011)	
1st Sessional	Algebra and Geometry: Algebraic equations-elementary algebraic operations linear and quadratic equations, factorization of quadratic equations and roots, Theory of indices, arithmetic and geometric series and sums, co-ordinate equations of lines, triangle and circle
2nd Sessional	Trigonometry and Matrices : (a) trigonometric ratios, relations among them, their sings in the 4 quadrants, ratios of well-known angles, applications height and distance.(B) Matrix as an array, rectangular and square matrices, order of matrix addition and multiplication of matrices, square matrix and its determinant evaluation of determinant, inverse of 2*2 matrix.
3rd Sessional	Calculus : concept of a function and sequence, limit of sequence and a function, standard limits and problems based on limits, graphs of a function and its continuity derivative of a function and its interpretation as growth rate, standard formulae for derivatives and anti-derivatives and integrals as areas.

Fundamental of Mathematics (MAT 111040)	
1st Sessional	Basic concepts of Set Theory, Equivalence relation and partition, partial ordered relation, bounds, sup, inf, Chain. Maximal and minimal elements, Zorn's lemma (statement only), lattices (definitions, examples and some properties). Countable and uncountable sets. Schroeder-Bernstein theorem (statement only) and applications to Cantors theorem and $2^{\aleph_0} = \aleph_1$, Cantor's ternary sets.
2nd Sessional	Axiomatics and topology of R, Bounds, exact bounds, role of least upper bound axiom: Bolzano-Weierstrass theorem, nested interval theorem, Heine-Borel theorem.
3rd Sessional	Arithmetic of Z: Primes, divisibility, factorization, lcm, gcd, fundamental theorem of arithmetic, congruences, linear congruences, Chinese remainder theorem, introduction to $d(n), \sigma(n), \varphi(n), \mu(n)$. Theorem's of Fermat, Euler, Lagrange and Wilson.

Fundamentals of Computer and C Programming (COM 110050)	
1st Sessional	Introduction to 'C' as Programming Language An overview of a 'C' programme, 'C' character set, 'C' tokens 'C' key words, Data Types (Primary, derived & user defined), Storage classes, symbolic constants, operators (Arithmetic, logical & Relational) Flow of control (If- else, switch-case; while,).
2nd Sessional	Flow of control(if, do-while & for-loops) Functions (UDF, String Functions, Mathematical function) Recursion, pointers, array (2-D & 3-D), Strings, pre-processor directives, structures, linked list.
3rd Sessional	Introduction to computers, generations of computer, processors, memory hierarchy and I/O devices, System and application software, generation of languages, compiler, interpreter, assembler, Number systems, computer arithmetic. Flow Charting, Sequential, Branching & Iterative.