

Engineering Tripos Part IIB 2012

Form of Written Papers

Number/Title/Method of Assessment (written paper (p), coursework (c))		Number of questions on the paper	Number of questions to be attempted
4A3	Turbomachinery I (p & c)	3	2
4A8	Environmental fluid mechanics (p)	4	3
4A9	Molecular thermodynamics (p)	4	3
4A10	Flow instability (p)	4	3
4A11	Turbomachinery II (p & c)	3	2
4A12	Turbulence and vortex dynamics (p)	4	3
4A13	Combustion and IC Engines (p)	4	3
4A15	Aeroacoustics (p)	4	3
4B5	Nanotechnology (p & c)	5	3
4B6	Solid state devices and chemical/biological sensors (p)	4	3
4B7	VLSI design, technology and CAD (p & c)	5	3
4B11	Photonic systems (p)	4	3
4B13	Electronic sensors and instrumentation (p)	5	3
4B14	Solar-electronic power: generation and distribution (p&c)	4	3
4B18	Advanced electronic devices (p)	5	3
4B19	Renewable electrical power (p)	4	3
4B20	Display technology (p)	4	3
4C2	Designing with composites (p & c)	4	3
4C3	Electrical and nano materials (p)	5	3
4C4	Design methods (p)	4	3
4C6	Advanced linear vibrations (p & c)	4	3
4C7	Random and non-linear vibrations (p & c)	4	3
4C8	Applications of dynamics (p & c)	4	3
4C9	Continuum mechanics (p)	3	2
4C15	MEMS: design (p & c)	4	3
4C16	Advanced machine design (p & c)	3	3
4D5	Foundation engineering (p & c)	4	3
4D6	Dynamics in civil engineering (p & c)	4	3
4D7	Concrete and masonry structures (p & c)	4	3
4D8	Pre-stressed concrete (p & c) †	5 (2 in Section A, 3 in Section B)	3 (1 in Section A, 2 in Section B)
4D10	Structural steelwork (p & c)	4	3
4D11	Building physics (p & c)	4	3
4D14	Contaminated land and waste containment (p & c)	4	3
4F1	Control system design (p & c)	3	2
4F2	Robust and non-linear control (p)	4	3
4F3	Optimal and predictive control (p)	4	3
4F5	Advanced wireless communications (p)	4	3
4F6	Signal detection and estimation (p)	4	3
4F7	Digital filters and spectrum estimation (p)	4	3
4F8	Image processing and image coding (p)	4	3
4F10	Statistical pattern processing (p)	5	3
4F11	Speech and language processing (p)	4	3
4F12	Computer vision and robotics (p)	4	3
4G6	Cellular and molecular biomechanics (p)	4	3
4I8	Medical Physics (p)	3	2
4M6	Materials and processes for microsystems (MEMS) (p & c)	4	3
4M12	Partial differential equations and variational methods (p)	4	3
4M13	Complex analysis and optimisation (p) †	4	3
4M15	Sustainable energy (p & c)	3	2
4M16	Nuclear power engineering (p)	4	3

† The written paper for these modules will be divided into sections. Further information is shown below.

The written papers for Modules 4D8 and 4M13 will be divided into sections as follows:

4D8 Section A questions have weighting of 50%
Section B questions have weighting of 25%
Both sections may contain questions on any relevant topic

4M13 Section A Complex analysis
Section B Optimisation