

**ENGINEERING TRIPOS PART IIA 2012: FORM OF MODULE WRITTEN EXAMINATION PAPERS**

<b>Module Title</b>		<b>Written paper (p); coursework (c)</b>	<b>Number of questions on the paper</b>	<b>Number of questions to be attempted</b>
3A1	Fluid mechanics I (double module)	p	8	5
3A3	Fluid mechanics II (double module)	p	8	5
3A5	Thermodynamics and power generation	p	4	3
3A6	Heat and mass transfer	p	4	3
3B1	Radio frequency electronics	p	4	3
3B2	Integrated digital electronics	p	4	3
3B4	Electric drive systems	p	4	3
3B5	Semiconductor engineering	p	4	3
3B6	Photonic technology	p	4	3
3B7	Present and future energy systems	p	4	3
3C1	Materials processing and design	p	4	3
3C5	Dynamics	p	4	3
3C6	Vibration	p	4	3
3C7	Mechanics of solids	p	4	3
3C8	Machine design	P	4	3
3C9	Fracture mechanics of materials and structures	p	4	3
3D1	Geotechnical engineering I	p	4	3
3D2	Geotechnical engineering II	p	4	3
3D3	Structural materials and design	p	4	3
3D4	Structural analysis and stability	p	4	3
3D5	Water engineering	p	4	3
3D7	Finite element methods	p	4	3
3D8	Building physics and environmental geotechnics	p	4	3
3E1	Business economics	p	4	2
3E2	Marketing	p	4	2
3E3	Modelling risk	p	4	2
3E5	Human resource management	p	4	2
3E6	Organisational behaviour	p	4	2
3E10	Operations management for engineers	p	4	2
3F1	Signals and systems	p	4	3
3F2	Systems and control	p	4	3
3F3	Signal and pattern processing	p	4	3
3F4	Data transmission	p	4	3
3F5	Computer and network systems	p	4	3
3F6	Software engineering and design	p	4	3
3G1	Introduction to molecular bioengineering	p	4	3
3G2	Mathematical physiology	p	4	3
3G3	Intoduction to neuroscience	p	4	3
3G4	Medical imaging and 3-D computer graphics	p	Section A: 2 Section B: 2 Section C: 2	1 1 1
3G5	Biomaterials	p	4	3
3I1	Data structures and algorithms (CST)	p	Section A: 1 Section B: 3	1 2
3M1	Mathematical methods	p	4	3
4C4	Design methods	p	4	3
4D8	Pre-stressed concrete†	p & c	Section A: 2 Section B: 3	1 2
4M12	Partial differential equations and variational methods	p	4	3
4M16	Nuclear power engineering	p	4	3

The written paper for Module 4D8 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