

UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For the following qualifications :-

M.Sc.

M.Sc. Prenatal Genetics & Fetal Medicine: Human Embryonic Development and Preimplantation Diagnosis

COURSE CODE : **PGFM0003**

DATE : **29-APR-02**

TIME : **14.30**

TIME ALLOWED : **3 hours**

02-N0238-3-30

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TURN OVER

MSc in Prenatal Genetics and Fetal Medicine
Human Embryonic Development and
Preimplantation Diagnosis
29th April 2002

There are two sections to this exam.

The short answer section makes up 25% of the marks for this paper.

The essay section counts for 75% of the marks (25% each essay).

Section 1 - SHORT ANSWER SECTION

This section makes up 25% of the examination.

1. Write short notes on ALL of the following

- a) Yq11 deletions
- b) embryonic stem cells
- c) apoptosis
- d) the limb bud
- e) abnormal kidney development
- f) cleavage stage embryo biopsy

Section 2 - ESSAY SECTION

Answer three essays from this section.

Each essay counts for 25% of the examination.

1. Compare male and female gametogenesis paying particular attention to the differences in meiosis.
2. Discuss the advances in Assisted Reproductive Technologies over the last 10 years.
3. Describe the normal development of the lungs, paying attention to the signals involved. Give examples of abnormal lung development.
4. Describe the development of **two** of the following:
 - a) brain
 - c) heart
 - d) gonads
5. Single cell FISH and PCR are used in preimplantation genetic diagnosis. Outline both of these methods and describe how they have been used for PGD.

END OF PAPER