

University of London

**EXAMINATION FOR INTERNAL STUDENTS**

For The Following Qualifications:–

*Grad Dip M.Sc.*

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

**COURSE CODE : PGFM0003**

**DATE : 28-APR-05**

**TIME : 14.30**

**TIME ALLOWED : 3 Hours**

**MSc/Diploma in Prenatal Genetics and Fetal Medicine**  
**Human Embryonic Development and**  
**Preimplantation Diagnosis**  
**28<sup>th</sup> April 2005**

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. The blastocyst
  - b. Gastrulation
  - c. Embryonic stem cells
  - d. The limb bud
  - e. Development of the gonads
  - 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 and contrast male and female gametogenesis.
2. What new techniques have been used to try and improve IVF in the last 10 years? In your opinion, what are the advantages and disadvantages of each technique?
3. Describe the normal and abnormal development of the lungs, paying attention to the signals and genes that are involved.
4. Describe two of the following:
  - a. Implantation
  - b. Brain development
  - c. Heart development
5. Write an essay on the current status of preimplantation genetic diagnosis. How has this technique been expanded for other indications in recent years and what does the future hold?

**END OF PAPER**