

UNIVERSITY COLLEGE LONDON

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-04

TIME : 14.30

TIME ALLOWED : 3 Hours

MSc in Prenatal Genetics and Fetal Medicine
Human Embryonic Development and
Preimplantation Diagnosis
28th April 2004

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. oogenesis
- b. spermatogenesis
- c. implantation
- d. development of the placenta
- e. development of the gut
- f. single cell PCR for PGD

Section 2 - ESSAY SECTION

Answer three essays from this section.

Each essay counts for 25% of the examination.

1. Outline the different causes of male and female infertility. What treatments can be used to help overcome this?
2. In recent years, the creation of embryos in vitro has led to the development of stem cell technology and the possibility of therapeutic and reproductive cloning. Outline these procedures and discuss the ethical issues that are raised.
3. Describe the normal and abnormal development of the brain.
4. Describe the development of **two** of the following:
 - (a) the preimplantation embryo
 - (b) limbs
 - (c) heart
5. Outline the three stages when cells can be biopsied from the oocyte/embryo for PGD. What are the advantages and disadvantages of each procedure?

END OF PAPER