

UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For The Following Qualifications:–

M.Sc. PG Dip

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

COURSE CODE : PGFM0003

DATE : 28-APR-06

TIME : 10.00

TIME ALLOWED : 3 Hours

MSc/Diploma in Prenatal Genetics and Fetal Medicine
Human Embryonic Development and
Preimplantation Diagnosis
28th April 2006

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. meiosis
- b. spermatogenesis
- c. oogenesis
- d. development of the gut
- e. development of the kidney
- f. embryo biopsy

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 overcome this?
2. Describe the genes involved in development giving examples of how they orchestrate formation of some of the organs.
3. Describe the normal and abnormal development of the heart, paying attention to the signals and genes that are involved.
4. Describe two of the following:
 - a. the preimplantation embryo
 - b. the limb bud
 - c. development of the brain
5. Single cell FISH and PCR are used in preimplantation genetic diagnosis. Describe how these techniques are used in PGD and for what indications.

END OF PAPER