**Biology 3201 Objectives -**

**Unit 2: Ch 15. Reproductive Systems, Technologies and**

**Embryonic Differentiation and Development**

Identify and give the function of the basic structures of sexual reproduction in flowering plants. Include: pistil, stamen, pollen, ovules, seed, fruit.

Describe the process of sexual reproduction in flowering plants.

Analyze and describe the structure and function of the male human reproductive system. Include

A. testis

B. scrotum

C. semineferous tubules

D. epididymis

E. sperm duct (vas deferens)

F. Cowpers (bulbourethral) gland

G. seminal vesicle

H. prostate

I. urethra

Identify the principal reproductive hormones of the human male. Include:

A. inhibin

B. follicle stimulating hormone (FSH)

C. luteinizing hormone (LH)

D. testosterone

Explain the function and interactions between these hormones in maintaining the male reproductive system.

Analyze and describe the structure and function of the female human reproductive system. Include

A. ovary

B. follicles

C. oviduct (fallopian tubes)

D. fimbriae

E. uterus

F. endometrium

G. cervix

H. vagina

Identify the principal reproductive hormones of the human female. Include

A. estrogen

B. progesterone

C. luteinizing hormone

D. follicle-stimulating hormone

Trace the journey of sperm and egg from their origin until fertilization

Explain the function and interactions between these hormones in the menstrual cycle.

Lab: The Menstrual Cycle p. 494-405.

Research and evaluate the uses and effects of estrogen/progesterone treatment on the health of women. Include hormone therapy among menopausal women and the use of birth control pills.

Describe the health risks on individuals and society associated with exposure to sexually transmitted infections (STIs). Include:

A. HIV and AIDS

B. chlamydia

C. hepatitis B

D. genital herpes

E. syphilis

F. gonorrhea

Describe the causes of human infertility.

A. blocked oviducts

B. failure to ovulate

C. endometriosis

D. damaged egg

E. obstruction in the vas deferens or epididymis

F. low sperm count

G. abnormal sperm

Identify the technological solutions to human infertility. Include

A. artificial insemination (AI)

B. in vitro fertilization (IVF)

C. in vitro maturation (IVM)

D. surrogate motherhood

E. superovulation using fertility drugs

F. embryo storage (cryopreservation)

How do the following methods of contraception work?

A. abstinence

B. birth control pills

C. Norplant (implant)

D. morning after pill

E. Depo-Provera (needle)

F. IUD (interuterine device)

G. tubal ligation

H. diaphragm

I. Spermacidal jellies and foams

J. condom

K. vasectomy

L. rhythm method

M. the patch

Assess the effects of contraception control technology on the population demographics of developed and underdeveloped countries.

 include Chinas one-child rule

Debate the merits of funding solutions to human fertility problems versus the funding of human population control.

Trace the journey of the egg after fertilization till implantation.

Explain how fraternal and identical offspring are produced.

Describe the following basic stages of embryonic development

A. cleavage

B. morula

C. blastocyst (blastula)

D. gastrula

E. germ layers

F. neural development

Describe the functions of primary membranes during the embryonic development of animals. Include

A. yolk

B. allantois

C. amnion

D. chorion

Explain the process of development of an embryo and fetus during pregnancy.

Describe the roles of the umbilical cord and placenta during pregnancy.

Examine the effects of teratogens on the development of the embryo.

A. cigarette smoke

B. alcohol

C. prescription drugs (thalidamide)

Describe the process of childbirth, including the following stages:

A. dilating stage

B. expulsion stage

C. placental stage

Identify chemical control hormones associated with implantation, birth, and lactation. Include progesterone, estrogen, oxytocin, and prolactin, and human chorionic gonadotropin (HCG).

Describe techniques used to monitor various stages of embryonic or fetal development.

A. ultrasound

B. amniocentesis

C. fetoscopy

D. CVS (chorionic villi sampling)