



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2013

LIFE SCIENCES: PAPER II

EXAMINATION NUMBER

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ANSWER BOOKLET

There are (vi) pages in this Answer Booklet.

QUESTION 1

Answer this question in the spaces provided. Place this Answer Booklet inside the Answer Book in which you answer the rest of the examination paper.

- 1.1 Select the term in Column B that best matches a description in the Column A. Write the letter of the matching term in the corresponding space provided between the brackets. Each letter may only be used once.

Column A

- [] The transfer of pollen from an anther to a stigma
- [] The development of a new identical plant from a bulb, e.g. onion
- [] The fusion of a male gamete and a female gamete
- [] Structure that supports an anther
- [] Polyploidy in crops such as wheat results from this form of reproduction
- [] Structure that holds the stigma in place
- [] Tissue culture produces many small plants (plantlets)
- [] Developed fertilised ovule

Column B

- A Asexual (vegetative) reproduction
- B Pollination
- C Seed
- D Fertilisation
- E Filament
- F Style
- G Fruit
- H Germination
- I Sexual reproduction
- J (Plant) Cloning

(8)

1.2 Give the correct biological term for each of the following descriptions. Write the term on the line provided.

1.2.1 A flexible structure that extends from the placenta to the abdomen of the foetus.

_____ (1)

1.2.2 A liquid that surrounds the foetus protecting it from damage.

_____ (1)

1.2.3 This gland produces milk and supplies antibodies to the baby.

_____ (1)

1.2.4 A membrane that forms a fluid filled sac around the developing human embryo.

_____ (1)

1.2.5 A disc shaped organ that becomes an endocrine gland about 12 weeks after fertilisation and takes over the role of the corpus luteum.

_____ (1)

1.3 Read the following information and then answer the questions that follow.

Sexually transmitted diseases and infections (STDs) are transmitted through body fluids during close sexual contact. In the early stages of the disease a person often misses the symptoms. Syphilis can be treated in the early stages with penicillin. In South Africa Gonorrhoea does not respond to penicillin but may be treated by other antibiotics in the early stages. Condoms are usually effective in reducing the risk of infection.

STD statistics	
Year	Number of new patients treated for STDs
1991	188 650
1997	202 970
2001	249 445
2009	267 550

[Source: Govt. Health Clinic data]

Decide if the following statements are **True** or **False** and cross (X) the appropriate box. If the statement is **False**, write the correct words in the correction box to replace the word/s underlined in the statement.

Statement	True	False	Correction
Syphilis is transmitted by <u>body fluids</u> .			
In South Africa Gonorrhoea can be cured with <u>penicillin</u> .			
The greatest number of increases in new cases of STDs was between <u>1991 and 1997</u> .			

(5)

- 1.4 An incomplete graph illustrating changing human hormones, the ovarian cycle and endometrium thickness has been drawn below.

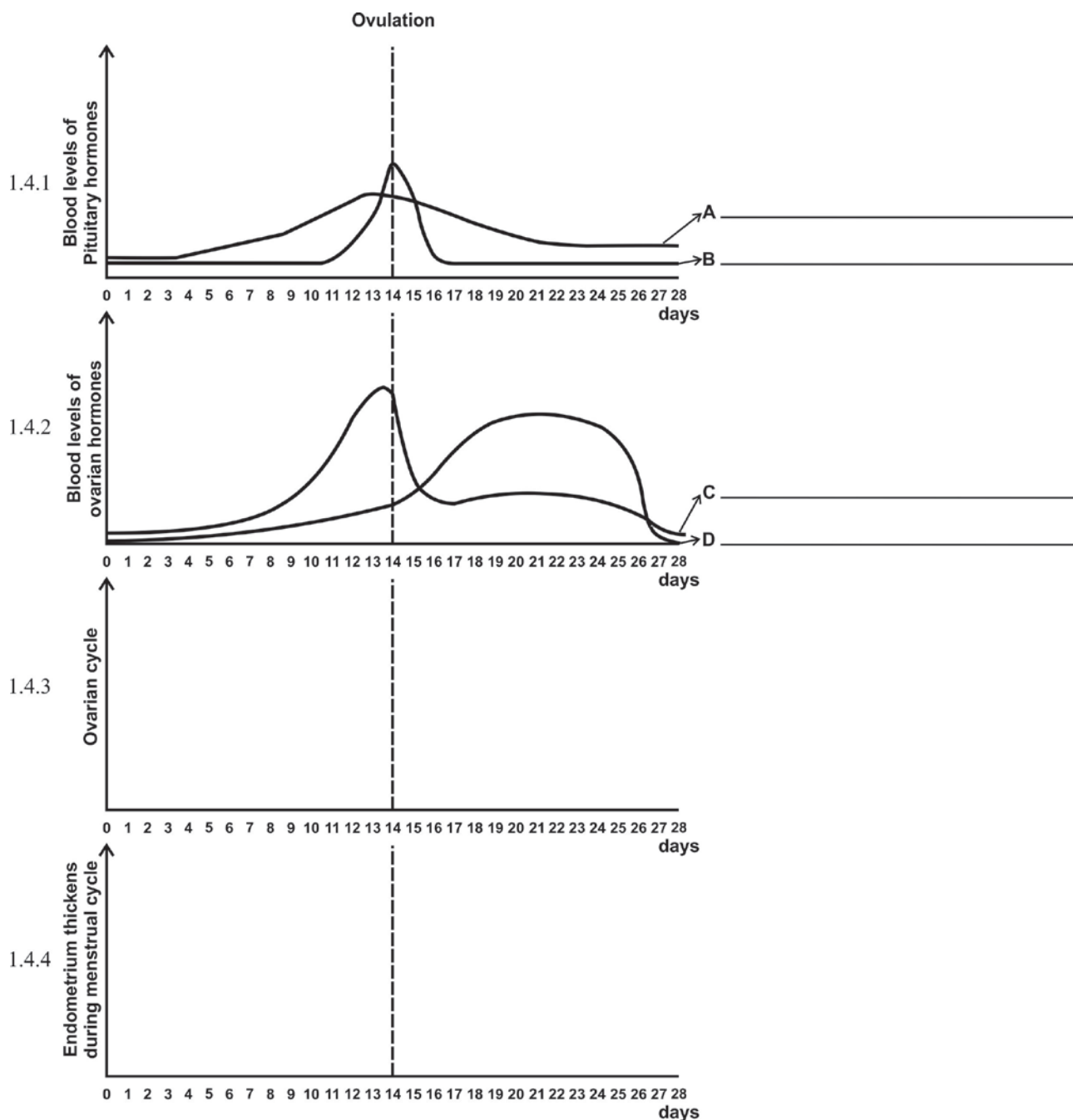
Complete the graph by adding the following information in the spaces provided on the graph.

1.4.1 Give the function of hormones A and B. (2)

1.4.2 Label the hormones C and D. (2)

1.4.3 Draw a diagram of a Graafian follicle; a ruptured Graafian follicle; and a corpus luteum at a correct position on the day line of the ovarian cycle. Name each diagram. (6)

1.4.4 Draw in the thickness of the endometrium to show the menstrual cycle. (2)



- 1.5 Six multiple choice questions are given below. Choose the most correct alternative in each question and write only the letter of the correct answer in the space provided.

1.5.1	1.5.2	1.5.3	1.5.4	1.5.5	1.5.6

- 1.5.1 This structure at the junction of the bladder and the urethra secretes fluid which contributes to the semen.

A seminal vesicle
 B prostate gland
 C ovary
 D foreskin

(1)

- 1.5.2 This contains enzymes and proteins that help the sperm attach to and penetrate an egg.

A nucleus
 B mid piece of sperm
 C acrosome
 D sperm tail

(1)

- 1.5.3 The male external genitals are made up of:

(i) penis
 (ii) bladder
 (iii) scrotum
 (iv) sperm duct

A (i) and (ii) only
 B (ii); (iii) and (iv)
 C (i) and (iii) only
 D (i); (iii) and (iv)

(2)

- 1.5.4 Testosterone is a hormone that:

A ensures the endometrium continues to thicken after fertilisation
 B stimulates the rupturing of a Graafian follicle
 C prepares the male body for flight or fight
 D shapes adult male mating behaviour and enlargement of skeletal muscles

(2)

- 1.5.5 Which of the following pairs link a reproductive structure and its function correctly?

A oviduct – maturation of sperm
 B vagina – fertilisation
 C penis – ejaculation of sperm
 D clitoris – ovum development

(2)

1.5.6 The hormone injection containing progesterone works effectively as a contraceptive because it:

- A stops the development of egg cells and ovulation
- B prevents the thickening of the endometrium wall
- C obstructs the movement of sperm in the oviduct
- D stimulates the movement of sperm in the oviduct

(2)
[40]