

# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

## APPLIED PHYSICS DEPARTMENT

SRA 3103 – THE ABDOMEN - REPRODUCTIVE SYSTEM

*BSc HONOURS PART II - MAY 2006*

*DURATION: 3 HOURS*

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**ANSWER ALL PARTS OF SECTION A AND ANY THREE QUESTIONS IN SECTION B. SECTION A CARRIES 40 MARKS AND SECTION B CARRIES 60 MARKS.**

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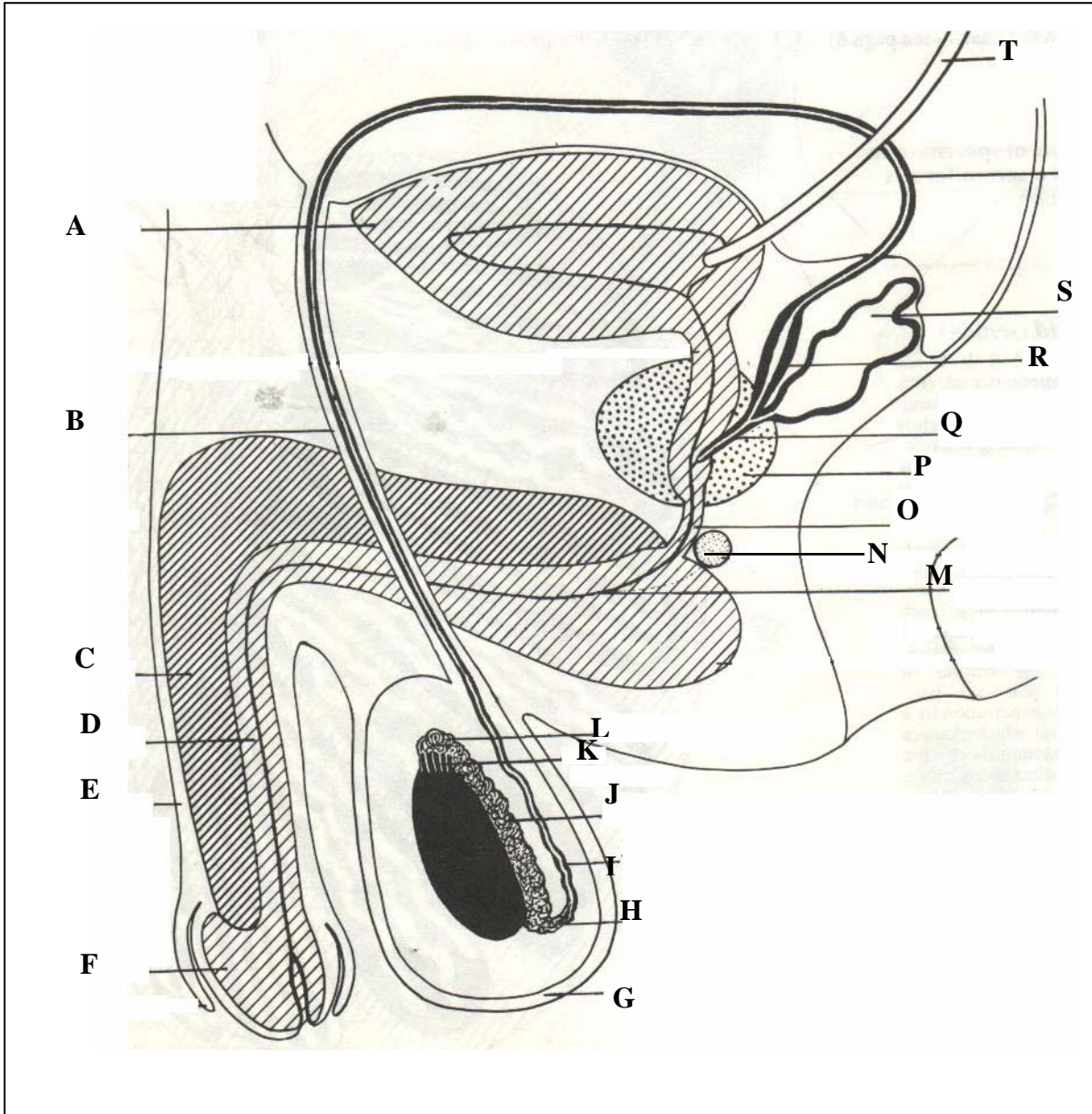
### SECTION A

1. (a) (i) With reference to hystero-salpingography, define the term. [2]
- (ii) Justify the explanation that would be given to the patient at booking. [8]
- (b) State FIVE indications for ultrasound in obstetrics. [5]
- (c) State FIVE pelvimetry measurements. [5]
- (d) Explain why plain radiography has limited role in obstetrics and gynaecology. [5]
- (e) State FIVE requirements for a breast cancer-screening programme using mammography. [5]
- (f) Explain the characteristics of the image receptor used in mammography. [10]

**SECTION B**

2. (a) Label the diagram below.

[10]



(b) Explain cavernosography.

[5]

(c) Justify the imaging modality of choice for the prostate gland.

[5]

3. Discuss the modifications that are made in the construction of a mammography X-ray tube. [20]
  4. With reference to gynaecology describe ultrasound of the uterus and ovaries using the following headings;
    - (a) clinical indications, [5]
    - (b) preparations, [3]
    - (c) imaging procedure. [12]
  5.
    - (a) Draw and label a female breast. [5]
    - (b) Describe the oblique projection to demonstrate breast pathology. [5]
    - (c) Evaluate the role of two imaging modalities in demonstrating of breast pathology. [10]
  6. Discuss FIVE fetal measurements that are performed during ultrasound. [20]
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**-END OF EXAMINATION-**