higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

MEDICAL PRACTICE N4
(FIRST PAPER)

14 NOVEMBER 2018

This marking guideline consists of 6 pages.

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QUESTION 1

1.1	1.1.1	True		
	1.1.2	False		
	1.1.3	True		
	1.1.4	False		
	1.1.5	True		
	1.1.6	True		
	1.1.7	True		
	1.1.8	False		
	1.1.9	False		
	1.1.10	False		
			(10 × 2)	(20)
1.2	1.2.1	On the front side		
	1.2.2	On the top side		
	1.2.3	Palm facing to the front		
	1.2.4	Movement further away from the midline		
	1.2.5	Opening in a bone		
	1.2.6	Cavity in which the heart and lungs are found		
	1.2.7	Closer to the body		
			(7 × 2)	(14)
1.3	1.3.1	Erythroblastosis futalis		
	1.3.2	Carotis artery		
	1.3.3	Somatotrophin		
	1.3.4	Hyper secretion		
	1.3.5	Prolactin		
	1.3.6	Peripheral nerves		
			(6 × 1)	(6)
				[40]

TOTAL SECTION A: 40

SECTION B

QUESTION 2

2.1 With inhaling or inspiration the diaphragm contracts and becomes more flat and simultaneously the intercostal or inter-rib muscles contract to lift the sternum or pectoral bone up and outwards and thus enlarge the thoracic cavity. The pressure diminishes and as a result of air pressure air enters the lung. When these muscles relax, the opposite happens and expiration takes place. (10)

2.2 From the lungs the blood is transported via the four pulmonary veins to the left atrium. Hence, it is transported through the bicuspid or mitral valve to the left ventricle. The blood leaves the heart via the aorta to the rest of the body. It is oxygenated blood. All the deoxygenated blood returns to the hart via the inferior vena cava, the superior vena cava and the coronary sinus and opens in the right atrium. Hence, the blood goes through the tricuspid valve to the right ventricle. From the right ventricle the blood goes via the pulmonary artery to the lungs where carbon dioxide is released and oxygen is taken up again. (10)
[20]

QUESTION 3

3.1 3.1.1 Lumber puncture (1)

3.1.2 Between the 3 and 4 lumber vertebras (1)

3.2 The semicircular canals, which is the organ of equilibrium of man. It contains a fluid, the perilymph that moves when the head moves. A branch of the hearing nerve, the nervus acusticus, conveys these impulses to the cerebrum and thus one becomes aware of your balance. (5)

3.3
- Temperature
- Amount of fluid taken in
- Stress
- Certain kinds of medication (Any 2 × 1) (2)

3.4
- Protein (albumin).
- Blood (is found because of illness or injury).
- Sugar (glucose in diabetes).
- Acetone and aceto-acetic acid in diabetes, starvation and acidosis.
- Gall colouring-matter in jaundice. (Any 2 × 1) (2)

3.5
1 Ovaries
2 Uterine tube
3 Uterus
4 Endometrium
5 Cerviks (5)

3.6
- Follical stimulating hormone
- Estrogin
- Luteïnatings hormone
- Progesterone (4 × 1) (4)

[20]

QUESTION 4

4.1 The diaphragm is a strong, light-weight, rubber cap somewhat smaller than the palm of your hand. It was the first medically accepted contraceptive developed over 40 years ago by a European physician. The thin rim of the diaphragm is made of a ring-shaped, rubber-covered metal spring. The spring is flexible and the whole diaphragm can be compressed and passed easily into the vagina. It is released in the upper widening canal of the vagina where it covers the cervix like a dome-shaped lid.

The distance from the back wall of the vagina to public bone varies from woman to woman. For this reason, diaphragms are made in a variety of sizes. The doctor must measure this distance in order to select the proper diaphragm for you. This measurement can be made without discomfort by the doctor during a pelvic examination.

As instructed by the physician, the diaphragm must be inserted prior to intercourse. Insertion may be made several hours prior to intercourse.

The diaphragm acts as a barrier, or deflector, preventing sperm from entering the uterus. But to be effective, it must be covered with a spermicidal jelly or cream made for this purpose. The spermicidal preparations discussed in the next chapter will kill all sperm on contact.

This is a well-established, proven method which affords many women the security of the physical barrier in addition to the spermicide. The diaphragm has no effect on future fertility. (10)

4.2 Coitus interruptus means interrupted sexual intercourse. It is often called the withdrawal method because it requires the man to withdraw from the vagina just before ejaculation. (2)

4.3 The condom is based on an old principle used at least since the 18th century. The condom is usually a thin stretchable rubber sheath that must be put over the penis just prior to intercourse. This requires an interruption that may be annoying. All sperm are supposed to remain within the sheath, thus preventing them from reaching the vagina. However, if the condom is not properly put on, or if it slips off even slightly (as it may after orgasm), or if it tears slightly, some sperm will immediately enter the vagina. Many couples find that the condom dulls the natural feeling.

Physicians sometimes recommend the condom for various other medical reasons, but it is not among the best available methods for the prevention of pregnancy.However, the use of a spermicidal jelly or cream with a condom does provide an added measure of protection. (5)

4.4 The spirogyte present in the mothers blood enters the babies blood through the placenta and then attacks the child. (3)
[20]

QUESTION 5

5.1 51.1
- Intimate sexual contact: This is the most common means of transmission.
- People using intravenous drugs: This may become a problem in South Africa in future.
- Infected mothers to their babies: This may happen pre-natally, during birth or after. Babies are more susceptible to AIDS as their immunological systems are not yet as well-developed.
- Blood transfusions: Considerably more people have been contaminated in this way. Fortunately legislation since 1985 demands that every unit of blood donated must be tested for AIDS before it may be given to anybody. (4)

5.1.2
- Severe persistent diarrhoea.
- Persistent cough or shortness of breath unexplained by smoking, etc.
- Development of flat, purplish spots on the skin, or inside the mouth.
- Memory loss and/or slowing of mental reactions. (4)

5.2 Herpes is the medical name for a group of similar viruses. This group includes the varicella-zoster virus, which causes chicken pox and measles.

To most people, however, herpes is the common term for infections caused by the herpes simplex virus (HSV). HSV infections take the form of blisters or lesions that generally occur periodically, often causing itching and pain.

There are two types of herpes simplex virus. In most cases Type 1 (HSV-1) causes cold sores or fever blisters, and Type 2 (HSV-2) causes genital herpes. However, some genital herpes may be caused by the HSV-1 virus, and some oral herpes may be caused by the HSV-2 virus. This cross infection can happen when sexual partners have oral- genital relations.

Only the symptoms of herpes can be released. As long as there is visual lesions present it is contagious. A substance that is very effective against the virus is acyclovir. It can be taken in the form of a pill or it can be applied as an ointment. However, it is very expensive. (5)

5.3 As a result of the increased pressure in the glomerulus the fluid moves through the capsule of Bowman into the tube. About 120 ml of blood is filtered through the kidneys per minute. Of that only 1 ml reaches the bladder. The filtration in the capsule of Bowman is the first in forming urine. Through this water, dissolved matter and salts are taken from the blood. The largest amount of the water is re-absorbed in the first convoluted tubes and this is the second step in the formation of urine.

The third step is secretion. Through this certain matter which is toxic to the body is secreted directly by the kidneys, i.e. an excess of antibiotics, mineral acids, etc. At the second step concentration can be included where the salts are concentrated in the loop of Henlé. The concentrated urine goes from the distal convoluted tube into the collecting tubule and from there to the kidney pelvis, where the urine leaves the kidneys and is conveyed to the bladder by the ureters. The ureters enter the bladder inferior to the dorsal side. The bladder exists of transitional epithelium and it is capable to stretch containing about 500 ml fluid. The bladder is protected by two circular muscles (sphincters) the one voluntary and the other involuntary, which are situated around the urethra. With the micturition reflex this involuntary muscle relaxes and micturition is controlled only by the voluntary muscle. (7)
[20]

TOTAL SECTION B 60
GRAND TOTAL: 100

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