

**GAUTENG DEPARTMENT OF EDUCATION****SENIOR CERTIFICATE EXAMINATION****DANCE SG****(Second Paper: Health Care and Anatomy)****SECTION A  
ANATOMY**

- |     |   |   |                  |
|-----|---|---|------------------|
| 1.1 | 1.1.1   | C | (1)              |
|     | 1.1.2   | D | (1)              |
|     | 1.1.3   | A | (1)              |
|     | 1.1.4   | B | (1)              |
| 1.2 | The simple sketch needs to show an endomysium (0.5) covering a muscle fibre (0.5), a perimysium (0.5) covering a bundle of muscle fibres (0.5) and an epimysium (0.5) covering the entire muscle (0.5). These coverings extend beyond the muscle to form a tendon (0.5) and attach onto the periosteum (0.5), a sleeve of fibrous tissue around the bone (0.5). |   | 0.5x8=(4)<br>[8] |

**QUESTION 2**

- |     |  |                  |
|-----|--|------------------|
| 2.1 | Erector spinae   | 0.5              |
| 2.2 | Both muscles insert via the Achilles tendon (0.5) into the calcaneus (0.5). Soleus (0.5) and gastrocnemium (0.5)   | 0.5x4=(2)        |
| 2.3 | Deltoid (0.5)<br>Origin: outer third of clavicle (0.5), acromion process (0.5) and spine of scapula (0.5)<br>Insertion: lateral surface of humerus (0.5) | 0.5x5=(2.5)      |
| 2.4 | Biceps, deltoid, pectoralis major, trapezius, latissimus dorsi.  | 0.5x4=(2)        |
| 2.5 | Hamstrings<br>Origin: ischium  | 0.5x2=(1)<br>[8] |



**QUESTION 3**

- 3.1 Turnout is brought about by concentric contraction (0.5) and maintained (isometric contraction (0.5) by the sartorius (0.5), adductors (0.5) and gluteus maximus (0.5). To rise, the soleus (0.5) and gastrocnemius (0.5) have to contract concentrically (0.5) and thus cause plantarflexion of the ankle joint (0.5). Intrinsic muscles of the foot (0.5) and tibialis anterior (0.5) help to lift the arch of the foot (0.5). Any forward sway of the body will be counteracted by the hamstrings (0.5) and any backward sway will be counteracted by the tibialis anterior (0.5). 0.5x8=(4)  
*Any other logical anatomical information pertaining to the lower body.*
- 3.2 Soleus (0.5) and gastrocnemius (0.5) contract eccentrically (0.5) to control the lowering. Knee is held straight and stable (0.5) by the quadriceps (0.5), and adductors (0.5) are actively drawing together the thighs (0.5). 0.5x4=(2)  
*Any other logical anatomical information pertaining to the lower body.* [6]

**TOTAL FOR SECTION A: [22]****SECTION B  
HEALTH CARE****QUESTION 4**

- 4.1 a) Anatomical causes 0.5x2=(1)  
 b) Environmental causes
- 4.2 **Anatomical**
- Most dancers are not anatomically perfect for dance
  - Physical limitations and constraints play a role in preventing a perfect technique
  - Most common is the limitation of turnout
  - It is important for the teacher to be aware of these limitations
  - Take into consideration and work accordingly
  - Overturning the feet puts strain on the knee joint
  - Weak ankles from rolling
  - Spine and posture problems arise due to this fault
  - Therefore, forcing turnout will result in very debilitating injuries and posture problems that become impossible to correct
- Lack of technical knowledge**
- Injuries are seen to occur during the learning period
  - Application of the steps and technique are not correctly applied and intelligently executed
  - Dancers having little dedication and interest tend to work lazily and therefore dangerously
  - A tired body battles to perform any correctly placed technique



**Non application of correct technique**

- Tired body and mind are unable to perform technique accurately
- No interest and dedication, together with lack of energy, lead to faulty execution of steps and therefore injury
- Bizarre choreography and unusual steps that demand and throw the body right off its normal alignment and into another physical and technical realm

**Bad teaching**

- Uninformed, uneducated teachers with little or no experience and guidance can teach many bad habits and faulty technique
- Lazy, uninterested teacher who doesn't care and has little interest in the art form and work that has to be taught
- Teachers who ignore the physical, individual limitations of each child and fail to treat them accordingly
- Teachers who allow gross technical faults to continue

**Temperature**

- Rehearsal room that is either too hot or too cold
- Pre-performance temperature has to be maintained
- Good air supply to heart, lungs and muscles

**The floor**

- Decent floors are an essential tool for the dancer
- It needs to be a well sprung, wooden floor
- Concrete floors lead to foot, knee and lumbar injuries
- Raked floors and stages present further complications as this throws the weight of the body into an unnatural position
- Slippery dance floors pose obvious hazards and this should be avoided or a solution such as rosin should be provided 0.5x7=(3.5)

4.3

- Development and maintenance of correct technique
  - Development and maintenance of muscle strength and joint mobility
  - Develop and maintain a good stretch regime
  - Preservation of cardio-respiratory fitness
  - This is constant physical exercise and exertion challenging the heart and lungs
  - Good healthy eating habits
  - Being an intelligent dancer and stopping when you feel pain
  - Dancing with intelligence and dedication and being aware of how your own body reacts and feels 0.5x7=(3.5)
- [8]**

**QUESTION 5**

5.1

- Also referred to as muscle wasting or muscle atrophying
- The muscles lose tonus
- Due to immobilisation and no form of concentric muscle contraction
- This is most notable in a patient who has been in a cast 0.5x4=(2)



5.2 **Aerobic**

- There are two basic types of exercise, aerobic and anaerobic.
- Aerobic promotes cardiovascular fitness by raising your pulse to a targeted level.
- It is recommended that you exercise at your target heart rate for 30 minutes minimum.
- Think of aerobic activity as being long in duration yet low in intensity.
- Aerobic means with air or oxygen.
- Aerobic exercise conditions the heart and lungs by increasing the oxygen available to the body and by enabling the heart to use oxygen more efficiently.
- Aerobic exercise strengthens your lungs.
- Helps control weight.
- Increases muscle and joint flexibility, making you less susceptible to injury.
- Increases resistance to fatigue, supplying extra energy.
- Tones muscles and increases lean body mass.
- Decreases tension and aids in sleeping.
- Increases general stamina.
- Psychological benefits: exercise improves mood, reduces depression and anxiety.
- Some e.g. jogging, cycling, swimming and dancing.

## 5.3

- They are strengthened by adding a stimulus such as weight
- They are strengthened in the presence of resistance
- This can be an actual weight or the use of gravity and the body or water
- The muscle adapts to the demands made on it and is strengthened
- The more it is repeated, the stronger it becomes
- The faster
- The longer
- The heart and lungs are muscles
- As they become stronger and fitter
- So you become fitter and endurance increases.

0.5x6=(3)  
[8]

**QUESTION 6**

## 6.1

- Causes major psychological problems and eating disorders such as anorexia and bulimia.
- General muscle wasting and weakness atrophying muscle
- Loss of muscle tone and strength
- Tiredness and insomnia
- Difficulty in concentrating
- Forgetfulness
- Hair loss
- Amenorrhea
- Depression

0.5x6=(3)



- 6.2
- A carbo only diet is insufficient to provide body with energy, strength and protein.
  - Proteins are required for muscle and tissue development and repair to injury
  - They provide essential amino-acids which are needed for normal metabolism.
  - The body is incapable of producing amino acids.
  - If diet is insufficient in proteins, body will start to break down muscle fibre (largely composed of protein) to provide body with enough amino-acids.
  - This will ultimately lead to weakness and loss of strength.
  - It is vitally important to supplement the diet with a protein substitute e.g. milk, cheese, yoghurt, soya, nuts, etc.

0.5x8=(4)  
[7]

**TOTAL FOR SECTION B: [23]**

**TOTAL: 45**