

G C FOSTER COLLEGE OF PHYSICAL EDUCATION AND SPORT
ASSOCIATE DEGREE IN SPORTS MASSAGE AND FITNESS
JANUARY 2021 EXAMINATION

INTRODUCTION TO MEDICAL AND SURGICAL CONDITIONS
[SM204SEB]

YEAR 1

DURATION: 2 ½ HOURS

INSTRUCTIONS

- **READ ALL INSTRUCTIONS CAREFULLY before answering the questions**
- **WRITE YOUR ID NUMBER ON EVERY PAGE OF THE ANSWER SHEETS**
- **DO NOT WRITE ON THE QUESTION PAPER**
- **ANSWER ALL QUESTIONS IN EACH SECTION ON THE ANSWER SHEETS PROVIDED**
- **SECTION 1 – Thirty five (35) Multiple Choice Questions (35 marks)**

SECTION 2 – Five (5) Short Answer Questions (30 marks)

DO NOT TURN OVER UNTIL YOU ARE TOLD TO DO SO

SECTION A
MULTIPLE CHOICE QUESTIONS

1. Osteoarthritis can be caused by:
 - a) Obesity, gout, trauma and growth hormone disorders
 - b) Obesity and gout only
 - c) Trauma and obesity only
 - d) Hormone disorders and hereditary causes only

2. In a patient with Osteoarthritis the recommended treatment is a combination of:
 - a) Exercise, ice and massage only.
 - b) Ice, pain relieving medication and massage only.
 - c) Exercise, massage, modalities (ice and heat), pain relieving medication, support devices (braces and walkers) and supplements (glucosamine, osteochondroitin and cod liver oil).
 - d) Pain relieving medication, exercises and massage only.

3. Which of the following **Collagen Vascular Diseases** presents with purple-red dusky skin rash most commonly seen on the face and eyelids and on areas around the nails, knuckles (Gottron's sign), elbows, knees, chest and back and is a disease of the skin and muscles?
 - a) Polyarteritis nodosa.
 - b) Sarcoidosis.
 - c) Systemic Lupus Erythematosus.
 - d) Dermatomyositis.

4. Which of the following statements about Rheumatoid Arthritis is **incorrect**?
 - a) Massage is always contraindicated.
 - b) Rheumatoid Arthritis not only affects joints (wrists, knuckles, knees and ankles) but also other organs and tissues such as the skin, eyes and lungs.
 - c) Massage is both indicated and contraindicated and can often help soothe and relax stiff joints.
 - d) People with Rheumatoid Arthritis have a higher than usual risk of developing cardiovascular diseases such as atherosclerosis, heart attack and stroke.

5. Which collagen vascular disease results in joint pain, severe fatigue, hair loss, swollen lymph nodes, and a butterfly skin rash over the cheeks and bridge of the nose?
 - a) Ankylosing Spondylitis
 - b) Systemic Lupus Erythematosus
 - c) Scleroderma
 - d) Polymyositis

6. Which of the following respiratory diseases is a contagious bacterial infection that involves the lungs sometimes spreading to other organs?
- Asthma
 - Bronchiectasis
 - Bronchitis
 - Tuberculosis
7. Which of the following statements about Asthma are **correct**?
- Asthma is a chronic disorder that causes the airways of the lungs to swell and narrow, leading to wheezing, shortness of breath, chest tightness, and coughing.
 - Asthma is triggered by breathing in allergy-causing substances (called allergens or triggers) such as pet hair and dander from animals and dust or can be induced by exercise.
 - Asthma attacks can last for minutes to days, and is commonly treated with the popular quick relief drug known as Ventolin
 - Post asthma attack tapotemnt can be used the clear secretions from the chest and getting a massage will boost the respiratory system by deepening and stabilizing one's breathing patterns which in turn benefits the lungs and muscles to slow breathing, and promote relaxation.
- I and II only
 - I and III only
 - II, III and IV only
 - I, II, III and IV
8. Which of the following respiratory diseases results in destruction and widening of the large airways and is caused by recurrent inflammation or infection of the airways?
- Asthma
 - Bronchiectasis
 - Tuberculosis
 - Influenza
9. What are the two main forms of Chronic Obstructive Pulmonary Disease?
- Chronic Bronchitis and Asthma.
 - Acute Bronchitis and Asthma.
 - Chronic Bronchitis and Emphysema.
 - Emphysema and Influenza.
10. Hypertension is a:
- Cardiac chronic medical condition in which the systemic arterial blood pressure is low.
 - Cardiac chronic medical condition in which the systemic arterial blood pressure is elevated.
 - Chronic medical condition which can only be controlled by medication.
 - Chronic medical condition which always results in a thrombotic stroke.

11. Massage therapy promotes relaxation in patients with hypertension and reduces blood pressure. Which type of massage therapy **best** promotes this effect?
- Swedish Massage
 - Trigger Point Therapy
 - Sports Massage
 - None of the above
12. Type 2 Diabetes is defined as the inability of cells to utilise:
- Fats properly and efficiently.
 - Insulin properly and efficiently.
 - Proteins properly and efficiently.
 - Vitamins and minerals properly and efficiently.
13. Which of the following statements is **true** about Diabetes?
- Late complications of diabetes are blindness (diabetic retinopathy), kidney failure (diabetic nephropathy), and nerve damage (diabetic neuropathy).
 - Type 2 diabetes is known as insulin dependent diabetes mellitus (IDDM).
 - Type 2 diabetes is a genetic disease only in seen children and is called juvenile onset diabetes.
 - Type 1 diabetes is known as non-insulin dependent diabetes mellitus (NIDDM).
14. Adults over 20 years of age, are considered obese if they have a body mass index (BMI) of:
- 18.5
 - 20
 - 25
 - 30 and over
15. Which of the following cardiac conditions results in inflammation of the inside lining of the heart chambers and heart valves (endocardium)?
- Angina
 - Myocarditis
 - Endocarditis
 - Cardiomyopathy
16. Which of the following is the most common type of heart disease and is due to the build up of plaque in the walls of the arteries resulting in angina or heart attack ?
- Endocarditis
 - Myocarditis
 - Cardiomyopathy
 - Coronary Artery Disease

17. Which of the following statements is **false** as it relates to exercise and heart disease?
- Before beginning an exercise programme persons with heart disease must consult their doctor.
 - Persons with heart disease such as cardiomyopathy must do isometric exercises such as push ups and sit ups.
 - Persons with heart disease must be aware of precautions such as the onset of chest pain, palpitations, dizziness or severe shortness of breath while exercising and must stop exercising if these symptoms are experienced.
 - Cardiac rehabilitation is important for persons with heart disease, such as congestive heart failure, and involves education, resources, tailored exercise programmes, strong emphasis on changing risk factors and emotional support.
18. A client has been referred to you for a leg massage but you notice that her right leg is red, hot and swollen and when you palpate the calf muscle there is pain. What condition does this indicate?
- Phlebitis
 - Cor Pulmonale
 - Deep Vein Thrombosis
 - Arterial Thrombosis
19. Which of the following conditions results in **neurogenic** muscle atrophy?
- Stroke
 - Sedentary life style
 - Prolonged bed rest
 - Fractures
20. What is the best treatment for a client with disuse atrophy?
- Taking medications such as NSAIDS (e.g. voltaren).
 - Strengthening exercises using weights and therabands.
 - Flexibility exercises.
 - Massage therapy.
21. Which of the following **are** symptoms of a stroke?
- Sudden paralysis of a leg, arm or one side of the face
 - Aphasia or dysphasia
 - Sudden loss of coordination or problems with balance
- I and II only
 - I and III only
 - II and III only
 - I, II and III

22. Which of the following statements is **true** about Autism?

- a) The child with Autism cannot start or maintain a social conversation, communicates with gestures instead of words and develops language slowly or not at all.
- b) The child with Autism only has language and speech problems which results in communication deficits.
- c) The child with Autism readily makes friends and interacts with his/her environment and so has no communication deficits.
- d) The child with Autism only becomes withdrawn from his environment resulting in minimal socialisation.

Questions 23 – 26 refer to the following options:

- a) Schizophrenia
- b) Amyotrophic Lateral Sclerosis
- c) Huntington's Disease
- d) Myasthenia Gravis

23. Which neurological disease is a complex mental illness resulting in problems with thinking, emotions and behaviour? _____

24. Which neurological disease is a relatively rare acquired, autoimmune disorder caused by an antibody-mediated blockade of neuromuscular transmission resulting in skeletal muscle weakness and symptoms such as droopy eyelids? _____

25. Gentle exercises such as walking, swimming, and stationary bicycling can strengthen unaffected muscles and range of motion and stretching exercises can help prevent painful spasticity and shortening (contracture) of muscles in which neurological disorder? _____

26. Which of the above neurological diseases is a **neurogenetic** disease that causes the progressive breakdown (degeneration) of nerve cells in the brain and generally manifests in the 30s and 40s age group? _____

27. Which of the following are **primary** symptoms of Parkinson's Disease?

- a) Confusion and memory loss.
- b) Tremors and weakness in the limbs.
- c) Slowed quieter speech and a monotone voice.
- d) Tremors, bradykinesia, rigidity and a shuffling gait.

28. Multiple Sclerosis is a:
- Collagen vascular disease affecting the muscles resulting in weakness.
 - Neurological disease affecting only the spinal cord resulting in degenerative paralysis.
 - Neurological disease in which the nerves of the central nervous system (brain and spinal cord) degenerate resulting in visual, speech and walking deficits.
 - Neurological disease affecting the brain resulting in plaques on the brain and weakness in the limbs.
29. Which of the following types of Spina Bifida is known as hidden Spina Bifida?
- Meningocele
 - Spina Bifida Occulta
 - Myelomeningocele
 - Amyotrophic Lateral Sclerosis
30. Cerebral Palsy is defined as a :
- Collagen vascular disease occurring at birth affecting the muscles resulting in weakness and spasticity.
 - Disorder of the brain, occurring in utero, during birth or after birth, that affects muscle tone, movement, and motor skills (the ability to move in a coordinated and purposeful way).
 - Neurological disease of the spinal cord resulting in decreased muscle strength and spasticity in the lower limbs.
 - Neurological disease affecting the brain resulting in plaques, weakness and spasticity in the limbs.
31. Children with cerebral palsy benefit from massage in which of the following ways?
- Massage reduces spasticity and results in less rigid muscle tone overall.
 - Spasticity in the arms increases with massage but it is decreased in the lower limbs.
 - Massage improves fine and gross motor functioning in the arms.
 - Massage improves cognition, social and dressing skills and they show more positive facial expressions and less limb activity during face-to-face play interactions.
- I, II and III only
 - II, III and IV only
 - I, III and IV only
 - I, II, III and IV

32. Which of the following statements is **incorrect** about Neuromyelitis Optica?
- a) Neuromyelitis Optica is an inherited disease which affects girls more than boys.
 - b) Neuromyelitis Optica, also known as Devic's disease, is a rare condition that affects the spinal cord and the nerves of the eyes.
 - c) Neuromyelitis Optica causes temporary loss of eyesight affecting at least one eye, with a risk of permanent vision loss
 - d) Neuromyelitis Optica results in weakness or paralysis in the legs or arms, painful spasms, loss of sensation.
33. Which of the following conditions is caused by traumatic (motor vehicle accidents, gun shot wounds) or non-traumatic (tumours, infection) events and results in loss of motor power, sensation and bladder and bowel control below the level of the lesion?
- a) Spinal Cord Injuries
 - b) Spinal Muscle Atrophy
 - c) Muscular Dystrophy
 - d) Multiple Sclerosis
34. Which of the following statements is **false** about massage in relation to medical and surgical conditions?
- a) Pre-surgery massage increases circulation and restorative sleep.
 - b) Massage helps the laying down of collagen substructures which cause scar tissue around the incision and surrounding tissues.
 - c) Patients with fibromyalgia often find massage helps to quiet the nervous system, while calming and loosening the connective tissues that are inflamed.
 - d) Massage is not contraindicated in persons with diabetes mellitus.
35. Which of the following benefits of massage relate specifically to post surgery patients?
- I. Reduction of pain and increased joint range of motion.
 - II. Improved lymphatic flow and increased areterial and venous flow.
 - III. Helps prevent scar tissue.
- a) I and II only
 - b) I and III only
 - c) II and III only
 - d) I, II and III only

SECTION B
SHORT ANSWER QUESTIONS

1. A 22-year-old male rugby player fell on his outstretched hand during a rugby match. On examination he was in severe pain and his right wrist was swollen. You are the massage therapist on site, and you suspect that this player has a fracture of the radius and ulna. However, upon further examination by the doctor, it has been determined that he only has a wrist sprain.

- a) List the **four (4)** cardinal signs of inflammation (4 marks)
- b) What is the recommended treatment protocol for this athlete? (2 marks)

2. The underlying cause of cardiovascular disease is atherosclerosis and progresses for decades before cardiovascular symptoms occur. It is believed that atherosclerosis starts in childhood. You are the massage therapist for a 21-year-old male track athlete.

- a) **Discuss three (3)** lifestyle changes you would advise the athlete to adopt **while he is still an athlete and after retirement** to prevent atherosclerosis? (5 marks)
- b) If this athlete were to become obese after retirement **list three (3)** complications of obesity that may occur. (3 marks)
- c) If this athlete were to become diabetic at the age of 40 which type of diabetes would he be diagnosed with? (1 mark)

3. You are the massage therapist with a gymnastic club. Female gymnasts, due to the high demand of the sport, are said to be more prone to the female triad.

- a) What are the **three (3)** components of the female triad? (3 marks)
- b) Name **two (2)** types of eating disorders associated with the female triad. (2 marks)
- c) Suggest **two (2)** reasons why massage is beneficial to an athlete with the female triad. (2 marks)

4. Mr. Brown is a 65-year-old client with Parkinson's Disease who has been referred to you for a massage. Parkinson's Disease is associated with the loss of a chemical messenger in the substantia nigra of the brain and studies have shown that massage can be of benefit to these persons.

- a) What is the name of this chemical messenger associated with Parkinson's Disease? (1 mark)
- b) State **two (2)** benefits of massage **specific** to this client with Parkinson's Disease. (2 marks)

5. Mrs. Dixon is a 55-year-old client with a stroke who has come to your office for a massage.

- a) What are the **two (2)** main types of stroke? (2 marks)
- b) Outline **three (3)** benefits of massage that are specific to a stroke patient. (3 marks)

END OF EXAMINATION