

**G.C. FOSTER COLLEGE OF PHYSICAL EDUCATION AND SPORT  
ASSOCIATE DEGREE IN SPORTS MASSAGE FITNESS**

**JULY 2022 EXAMINATION**

**ADAPTED FITNESS INSTRUCTION  
(FITNESS INSTRUCTION FOR THE DISABLED)**

**INSTRUCTIONS**

- **READ ALL INSTRUCTIONS CAREFULLY before answering the questions**
- **WRITE YOUR NAME AND 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**
- **Forty (40) Multiple Choice Questions (80 marks)**
- **Twenty (20) Short Answer Questions (20 marks)**

**DO NOT TURN OVER UNTIL YOU ARE TOLD TO DO SO**

**SECTION A:**  
**MULTIPLE CHOICE QUESTIONS (40 MARKS)**

1. Adapted fitness instruction is for:
  - a) Children ages 0 -21 years
  - b) Adults ages 21 – 40 years
  - c) The total lifespan from childhood to adulthood
  - d) Adults ages 50 – 70 years
  
2. Adapted physical activity is a term that encompasses the interdisciplinary study of physical activity for:
  - a) Education, sport participation and wellness.
  - b) Leisure of individuals with unique needs.
  - c) Wellness and sport participation.
  - d) Education, leisure of individuals with unique needs, sport participation and wellness.
  
3. Which of the following **conditions does not** qualify to fall under Special Olympics?
  - a) Spinal Cord Injuries
  - b) A child with cerebral palsy who has an intellectual disability
  - c) Down's syndrome
  - d) Microcephaly
  
4. The **origin** of the Paralympic Games dates back to which year?
  - a) 1932
  - b) 1948
  - c) 1960
  - d) 1968
  
5. In which host city and in which year was the **first** Paralympic Games held?
  - a) Heidelberg, 1972
  - b) London, 1948
  - c) Rome, 1960
  - d) Sydney, 1968
  
6. In which **host cities** were the first Summer and Winter Deaflympics held?
  - a) London, England and Pyeongchang, Korea.
  - b) Melbourne, Australia and Sochi, Russia.
  - c) Paris, France and Seefeld, Austria.
  - d) Rome, Italy and Colorado Springs, USA.



7. Which of the following statements are true about Autism?

- I. Autism is a spectrum of conditions of neurobiological origin with no known cause
- II. Development in three main areas is impaired: verbal and non-verbal communication skills, social skills with limited or no initiation or reciprocal interaction, and restricted range of play and interests.
- III. Studies have indicated that vigorous cardiovascular exercise decreases inappropriate behaviours and increases appropriate behaviours.
- IV. Cardiovascular exercise is also important for individuals with autism for physical fitness and the resulting health benefits.

- a) I and II only
- b) II, III only
- c) II, III and IV only
- d) I, II, III and IV

8. Which of the following statements are true of adapted aquatics?

- I. Warm water facilitates improvements in joint range of motion.
- II. Warm water does not facilitate improved muscle strength and endurance.
- III. Water supports the body, enabling a person to possibly walk for the first time, thus increasing strength for ambulation on land.
- IV. The warmth of the water experienced during aquatic therapy assists in relaxing muscles and vasodilates vessels, increasing blood flow to injured areas.

- a) I and II only
- b) I, III and IV only
- c) I, II and III only
- d) I, II, III and IV

9. Children with cerebral palsy benefit from yoga in which of the following ways?

- I. Yoga increases the spasticity in the muscles of the lower limb and relaxes the muscles of the upper limb.
- II. Pranayanas and asanas significantly reduce high muscle tone by giving the muscles and tendons a relaxing stretch.
- III. Yoga addresses the low muscle tone areas of the body as well, with asanas that provide just enough resistance to strengthen muscles that have low tonicity.
- IV. Yoga stretches and realigns the spine.

- a) I and II only
- b) I, II and III only
- c) I, III and IV only
- d) II, III and IV only

10. Wheelchair dance sport, which is now known as para dance sport is a sport which:
- Is included in the Special Olympics Games and includes standard dances such as waltz and tango and Latin dances such as the samba and rumba
  - Originated in the Netherlands in 1980 and has been included in the Paralympic Games since 2016
  - Is an extremely elegant, graceful and stylish wheelchair sport which involves athletes with a physical impairment that affects the lower limbs and includes standard dances such as waltz and tango and Latin dances such as samba and rumba
  - Is limited only to wheelchair users dancing singly or in partnership with other wheelchair users
11. Which of the following statements about Hippotherapy is **false**?
- Hippotherapy focuses on developing balance, body awareness and muscle tone in a child with a disability by responding and interacting passively to the horse's movement.
  - Hippotherapy teaches specific techniques and skills associated with riding a horse.
  - The three-dimensional rhythmical movement of the horse is similar to the human movement patterns of the pelvis while walking.
  - Hippotherapy helps to improve the risk-taking abilities of a child with a disability.
12. Which of the following statements is **false** about Football 5-a-side?
- The game is also known as blind football
  - Teams are made up of four outfield players and one goalkeeper
  - The game is played on a rectangular field that measures 40m long and 20m wide and the whole length of the pitch must be covered by kickboards to prevent the ball from going out of play.
  - The game is also known as cerebral palsy football
13. Which of the following are guiding techniques for track and field athletes with a visual impairment?
- Guide wire
  - Sighted guide
  - Tether
  - Caller
- I and II only
  - II and III only
  - I, II and III only
  - I, II, III and IV



14. For a person with \_\_\_\_\_ exercise not only improves fitness outcomes, but the skills required to execute and maintain a programme and may also help improve cognitive function after injury.

- a) Acquired Brain Injury
- b) Down's Syndrome
- c) Multiple Sclerosis
- d) Parkinson's Diseases

15. The term 'acquired brain injury' includes:

- I Traumatic brain injuries-such as open head injuries for e.g. by a gunshot wound.
- II Traumatic brain injuries caused by closed head injuries such as a blow to the head and motor vehicle accidents.
- III Non-traumatic brain injuries such as those caused by strokes and other vascular accidents.
- IV Non- traumatic brain injuries such those caused by tumours, infectious diseases, hypoxia, metabolic disorders.

- a) I and II only
- b) I, II and III only
- c) I, III and IV only
- d) I, II, III and IV

16. Visual impairment can be caused by which of the following two conditions?

- a) Down's Syndrome and Parkinson's Disease
- b) Glaucoma and Retinitis Pigmentosa
- c) Muscular Dystrophy and Spina Bifida
- d) Paraplegia and Quadriplegia

17. Which of the following adjustments, if any, need to be made in a gym to accommodate persons with visual impairment?

- I For safety, mark the perimeter of the exercise machines with rope or contrasting colored tape on the floor
- II There is no need to make any adjustments in a gym as visually impaired persons may use the machines just as a sighted person
- III Braille on/off switches on each gym equipment.
- IV Use large print, hi-mark and braille each piece of gym equipment with a designated number.

- a) II only
- b) I and III only
- c) I and IV only
- d) I, III and IV

18. Specially designed wheelchairs, ramps for releasing the ball and specially designed handles on balls for gripping is used in which of the following sports?

- a) Adapted Bowling
- b) Adapted Golf
- c) Boccia
- d) Wheelchair Basketball

19. \_\_\_\_\_ is a water-based total body strengthening and relaxation progression that combines East and West philosophies utilizing Tai Chi and QiGong techniques and integrates mental, physical and spiritual energy.

- a) Tai Chi
- b) Ai Chi
- c) Yoga
- d) Watsu

20. The benefits of Ai Chi include:

- I Improved flexibility, range of motion, and general mobility
- II Improved metabolism and caloric consumption
- III Better blood circulation
- IV Re-vitalized energy circulation along important acupoint meridians

- a) I and III only
- b) I, II and III only
- c) I, II and IV only
- d) I, II, III and IV

21. The basis of the breathing techniques in Ai Chi is to bring balance to the:

- a) Sympathetic and parasympathetic nervous systems.
- b) Central nervous system
- c) Peripheral nervous system
- d) Brain

22. Which of the following health conditions can Ai Chi assist with?

- a) Spinal Cord Injuries
- b) Spina Bifida
- c) Chronic disorders such as fibromyalgia and arthritis
- d) Someone infected with the HIV virus



23. In which type of hearing loss is the outer and/or middle ear affected and which can result from problems with the eardrum and/or the auditory ossicles that conduct the sound vibrations?

- a) Conductive
- b) Sensory
- c) Neural
- d) Sensorineural

24. Fitness Instructors have a greater challenge in ensuring that persons with intellectual disabilities exercise and keep fit. Which of the following is **NOT** an effective strategy for exercise for persons with intellectual disabilities?

- a) Develop a reward system that reinforces small accomplishments in their exercise programme.
- b) Offer a "buddy" system that will allow the person to exercise with a friend or someone they enjoy being around.
- c) Keep records of performance.
- d) Give them a home exercise programme.

**Questions 25 – 30** refer to the following options:

- a) Football 7-a-side
- b) Floor Hockey
- c) Adapted Judo
- d) Wheelchair Basketball
- e) Para Biathlon
- f) Adapted Golf

25. Which sport uses specially designed clubs, mobility devices, gripping aides, practice facility equipment, such as automated ball teeing devices and ball retrieval aides?  
\_\_\_\_\_

26. Which sport is primarily a system of throwing techniques where one person grabs the other person's heavy cotton uniform (called a "Gi") and throws that person to the ground using their hands, arms, back, hips, and/or legs and is done by persons with a visual impairment at the Paralympic Games? \_\_\_\_\_

27. Which sport was originally referred to as cerebral palsy football, the match lasts two equal periods of 30 minutes and is played with 7 players on the court instead of the usual 11 \_\_\_\_\_

28. In which sport are players with the ball not allowed to push more than two strokes with one or two hands to advance without dribbling the ball? \_\_\_\_\_

29. In which sport do athletes ski on a 2.0 or 2.5 km course three or five times and on each lap stop in a prone position to shoot at two targets at a distance of 10 metres?  
\_\_\_\_\_

30. Which sport is played in Special Olympics on flat floor surfaces, such as a basketball court and players on each team attempt to shoot a ball or puck into a goal using sticks, usually with a curved end? \_\_\_\_\_
31. Which **type** of stroke is caused by a blood clot which blocks an artery to the brain?
- a) Haemorrhagic Stroke
  - b) Mild Stroke
  - c) Ischaemic Stroke
  - d) Evolving Stroke
32. Which type of stroke is caused by a ruptured blood vessel which causes bleeding in the brain?
- a) Haemorrhagic Stroke
  - b) Mild Stroke
  - c) Ischaemic Stroke
  - d) Transient Ischaemic Attack
33. Exercise is important for stroke patients and can help to modify the risk factors that lead to the stroke. Which of the following **types of exercises** help to decrease hypertension and body fat and improve glucose regulation, blood lipid profile and overall fitness?
- a) Coordination and Balance Exercises
  - b) Strengthening Exercises
  - c) Flexibility Exercises
  - d) Cardiovascular Exercises
34. For aerobic exercise in a quadriplegic client, the average target heart rate should fall between what range?
- a) 100 and 125 bpm
  - b) 65 and 91 bpm
  - c) 50 and 80 bpm
  - d) 90 and 110 bpm
35. What is the **preferred** aerobic exercise for quadriplegics clients?
- a) Dual Cycle Ergometry
  - b) Arm Ergometry
  - c) Pedal Cycling
  - d) Wheelchair laps



36. Which of the following **strength training guidelines** are specific to persons with spinal cord injuries?

- I Refrain from training the same muscle groups on consecutive days.
  - II Use straps or a partner for stabilization and balance.
  - III Strength training should be done 7 days per week
  - IV Vary exercises to reduce over-use injuries and emphasize muscle groups that are still functional.
- a) I and III only
  - b) I, II and III only
  - c) I, II and IV only
  - d) I, II, III and IV

37. An amputation can be defined as the:

- a) Intentional surgical removal of a lower limb body part only which is performed to remove diseased tissue or relieve pain.
- b) Intentional surgical removal of a limb or body part which is performed to remove diseased tissue or relieve pain.
- c) Removal of a limb or body part which is only due to bone cancer
- d) Removal of a limb or body part which is only due to trauma such as gunshot wounds and motor vehicle accidents

38. Which of the following set of aerobic exercises **best** suits a client with a below knee amputation with a prosthesis?

- a) Bicycle Ergometry and Treadmill Walking
- b) Jumping Jacks and Skipping
- c) Running and Swimming
- d) Upper Extremity Rowing Exercises and Arm Ergometry

39. The sport class names in Para swimming consist of a prefix "S" or "SB" and a number. The prefixes stand for the strokes and the number indicates the sport classes. What does the prefix "S" stand for?

- a) Breaststroke and Backstroke Events only
- b) Butterfly and Freestyle Events only
- c) Freestyle and Breaststroke Events only
- d) Freestyle, Butterfly and Backstroke Events

40. Which of the following statements are true about Para Table Tennis?

- I Para Table tennis is the third largest Paralympic sport in terms of the number of athletes who compete.
- II Para Table Tennis allows all physical impairment groups, aside from the visually impaired, to compete at the highest level in both standing or sitting classes
- III Athletes with a range of impairments take part in 11 different classification categories: 1-5 for those competing in wheelchairs, 6-10 for those who play standing and 11 for standing athletes with a learning disability.
- IV Para Table Tennis was included in the first Paralympic Games in Rome in 1960

- a) I and III only
- b) I, II and III only
- c) I, III and IV only
- d) I, II, III and IV



**SECTION B:**  
**SHORT ANSWER QUESTIONS (20 marks)**

1. a) What are the **three (3)** levels of inclusion? (3 marks)  
b) **Give two (2)** intrinsic and **two (2)** extrinsic barriers to inclusion (4 marks)
  
2. A fifty (50) year old left below knee amputee, who has a prosthetic leg, has been referred to your gym for you to prescribe an exercise programme for him.  
a) **What** are the **two (2)** main causes (i.e. 80%) of lower extremity amputations? (2 marks)  
b) **Give two (2)** benefits of exercise which are specific to the amputee. (1 mark)  
c) **Give two (2)** exercises you could prescribe for this patient. (1 mark)  
d) **Give two (2)** complications that could affect the activity level of your client. (1 mark)
  
3. a) **Give** the definition of yoga. (1 mark)  
b) **Give two (2)** components of a typical yoga session for children with cerebral palsy (2 marks)  
c) **Give** the name of **two (2)** types of pranayama or breathing exercise used in yoga. (1 mark)
  
4. a) For persons with a disability **name** the **two (2)** types of horseback riding? (2 marks)  
b) **Give two (2) physical benefits** of horseback riding for clients with a disability. (1 mark)  
c) **Give two (2) socio-emotional benefits** of horseback riding for clients with a disability. (1 mark)

**END OF EXAMINATION**

SHORT ANSWER QUESTIONS

1. (a) Define the term 'stress' and explain its effects on the human body. (2 marks)
- (b) Describe the physiological response to stress. (2 marks)
2. (a) Explain the concept of 'allostatic load' and its implications for health. (2 marks)
- (b) Discuss the role of the hypothalamic-pituitary-adrenal axis in the stress response. (2 marks)
3. (a) Identify the major components of the immune system. (2 marks)
- (b) Explain how stress can affect the immune system. (2 marks)
4. (a) Describe the relationship between stress and mental health. (2 marks)
- (b) Discuss the role of coping mechanisms in managing stress. (2 marks)

END OF EXAMINATION