

**ROYAL CIVIL SERVICE COMMISSION
BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2019
EXAMINATION CATEGORY: TECHNICAL**

PAPER III: SUBJECT SPECIALISATION PAPER FOR OCCUPATIONAL THERAPY

Date	: October 13, 2019
Total Marks	: 100
Writing Time	: 150 minutes (2.5 hours)
Reading Time	: 15 minutes (prior to writing time)

GENERAL INSTRUCTIONS:

1. Write your Registration Number clearly and correctly on the Answer Booklet.
2. The first 15 minutes is to check the number of pages of Question Paper, printing errors, clarify doubts and to read the instructions. You are NOT permitted to write during this time.
3. This paper consists of **TWO SECTIONS**, namely SECTION A & SECTION B:
 - **SECTION A** has two parts: Part I - 30 Multiple Choice Questions
Part II - 4 Short Answer Questions
All questions under SECTION A are COMPULSORY.
 - **SECTION B** consists of two Case Studies. Choose only **ONE** case study and answer the questions of your choice.
4. All answers should be written on the Answer Booklet provided to you. Candidates are not allowed to write anything on the question paper. If required, ask for additional Answer Booklet.
5. All answers should be written with correct numbering of Section, Part and Question Number in the Answer Booklet provided to you. Note that any answer written without indicating the Section, Part and Question Number will NOT be evaluated and no marks will be awarded.
6. Begin each Section and Part in a fresh page of the Answer Booklet.
7. You are not permitted to tear off any sheet(s) of the Answer Booklet as well as the Question Paper.
8. Use of any other paper including paper for rough work is not permitted.
9. **You are required to hand over the Answer Booklet to the Invigilator before leaving the examination hall.**
10. This paper has **8 printed pages**, including this instruction page.

GOOD LUCK

SECTION A

PART I: Multiple Choice Questions (30 marks)

Choose the correct answer and write down the letter of your chosen answer in the Answer Booklet against the question number e.g. 31 (d). Each question carries ONE mark. Any double writing, smudgy answers or writing more than one choice shall not be evaluated.

1. Prone is often the position of choice for which of the following?
 - a) Agitated, arching infant.
 - b) Infant with contractures.
 - c) To promote midline orientation.
 - d) Infant with newly repaired abdominal defect.

2. A unique therapy goal to address in a morning ADL with a patient following a recent below knee amputation is
 - a) lower limb dressing.
 - b) upper extremity exercise program.
 - c) item retrieval with a front-wheeled walker.
 - d) residual limb care using a long-handled mirror.

3. Loss of ability to correctly carry out certain movements in response to stimuli that normally elicit them, in an absence of weakness, other motor disorder or sensory loss is
 - a) Agnosia
 - b) Apraxia
 - c) Alexia
 - d) Ataxia

4. A mother reports that her 16 months old child has meltdowns whenever water touches her and hears toilets flushing or hand dryers, when she sees curtains moving at home, and whenever she plays with toys that are too visually stimulating. This child most likely has
 - a) Sensory over-responsiveness
 - b) Sensory seeking behaviour
 - c) Sensory under-responsiveness
 - d) Gravitational insecurity

5. An OT is developing an exercise program for a client with RSD in her right hand. The client is demonstrating pain, swelling and stiffness. Which initial exercise plan would be the BEST?
 - a) Relaxation training.
 - b) B manually manipulate the wrist and hand to increase ROM.
 - c) Protective sensory re-education.
 - d) Gentle active exercise and frequent massage.

6. Which of the following evaluation methods can NOT be used to test manual dexterity/motor function?
 - a) 9-hole peg test.
 - b) Bay Area Functional Performance evaluation.
 - c) Minnesota Rate of Manipulation test.
 - d) Purdue pegboard.

7. A 45 years old patient comes to you with persistent numbness and tingling in the hypothenar eminence and small finger. The signs and symptoms are exacerbated and radiate proximally at night. The patient is likely suffering from
- Compression of radial nerve at radial groove.
 - Compression of radial nerve at the arcade of Frohse.
 - Compression of the ulnar nerve at the cubital tunnel.
 - Compression of median nerve at the carpal tunnel.
8. Terry Thomas sign is seen in _____.
- Scapho-lunate dissociation
 - Scaphoid waist fracture
 - AVN of lunate
 - Carpal tunnel syndrome
9. _____ is a layer of epidermis that desquamates, links adjacent cells and helps keep skin hydrated by preventing water evaporation.
- Stratum spinosum
 - Stratum lucidum
 - Stratum granulosum
 - Stratum corneum
10. A therapist is fabricating a static splint that will assist with the maintenance of functional hand and finger position while keeping the soft tissues of the hand in mid-range position. Which splint would the therapist most likely select to address these needs?
- Bivalved cast
 - Resting pan splint
 - Wrist cock-up splint
 - Dynamic extension splint
11. How does a typical child with a brachial plexus injury present when entering an OT clinic for an evaluation?
- Shoulder hiking and internal rotation, flexed elbow and flexed wrist.
 - Shoulder external rotation, extended elbow, extended wrist.
 - Shoulder in neutral, elbow flexion and wrist in neutral.
 - Shoulder internally rotated and depressed with extended elbow, wrist in flexion.
12. All of the following are the muscles of thenar compartment EXCEPT
- Oppenhen's pollicis
 - Abductor pollicis brevis
 - Flexor pollicis brevis
 - Abductor pollicis longus

13. A child has sensory processing issues, specifically in body awareness and modulation affecting attention and ability transition throughout the day. Which of the following is NOT an appropriate intervention for this child?
- Jumping on a trampoline.
 - Joint compression/pressure massage.
 - Single-point platform swinging.
 - Free play/running in the play ground.
14. The ability to identify a body part as left or right in Graded Motor Imagery:
- Motor imagery
 - Laterality
 - Mirror therapy
 - Motor relearning
15. The initial Basic Life Support steps for adults are
- assess the individual, give two rescue breaths, defibrillate, and start CPR.
 - assess the individual, activate EMS and get AED, check pulse, and start CPR.
 - check pulse, give rescue breaths, assess the individual and defibrillate.
 - assess the individual, start CPR, give two rescue breaths, and defibrillate.
16. A patient presents with stroke involving hypothalamus. Which of the following are not indicative of hypothalamus function?
- Maintains body temperature.
 - Thirst centre.
 - Sensation of pain.
 - Control of hormone secretion.
17. The 2015 AHA guidelines for CPR recommended BLS sequence of steps are
- airway, breathing, check pulse.
 - airway, breathing, chest compression.
 - chest compression, airway, breathing.
 - None of the above.
18. A person who is unable to maintain focus as an object moves closer and further away is having difficulty with what visual skills?
- Smooth pursuits
 - Convergence
 - Accommodation
 - Saccades
19. Handling techniques used in the NDT approach are utilized to obtain all of the following EXCEPT
- Facilitation and inhibition of muscle groups
 - Normalization of movement patterns
 - Increasing ROM
 - Increasing associated reactions

20. In COPD, one of the reasons less air flows in and out of the airways may be because of which of the following?
- The alveoli do not exchange O₂ and CO₂ as efficiently.
 - The walls between many of the air sacs are destroyed.
 - The air sacs have decreased in size and numbers.
 - The thoracic muscles have become weak.
21. Damage to the right hemisphere would result in the following symptoms EXCEPT
- Left motor praxis
 - Emotion
 - Speech
 - Visual spatial processing
22. You are watching a child, present with biting reflex when eating. Which of the following type of utensils would be most appropriate to recommend?
- Swivel utensils
 - Weighted utensils
 - Rubber coated utensils
 - Extended utensils
23. A child has inadequate postural reactions resulting in poor independent sitting. Which activity would be most appropriate to use initially?
- Sitting on a large ball.
 - Swing in a hammock.
 - Reaching for a suspended toy while using a wide base sitting.
 - Battling a ball while straddling a pillow.
24. What is the term used for safe position when positioning a hand into a splint?
- Intrinsic plus position
 - Deformity prevention position
 - Neutral hand position
 - Extrinsic plus position
25. All of the following are inhibition techniques EXCEPT
- Brushing
 - Inversion
 - Reciprocal inhibition
 - Slow rocking
26. What would you recommend to parents of an infant who demonstrates low tone, cries a lot, and has a difficult time being soothed?
- Tightly swaddle the infant in blankets.
 - Loosely wrap the infant in a shirt that smells like the mother.
 - Do nothing, this is typical behaviour of an infant.
 - Provide frequent and rapid changes in movement to offer sensory input.

27. All of the following muscles are innervated by median nerve EXCEPT
- Flexor pollicis brevis
 - Palmaris brevis
 - Flexor digitorum superficialis
 - Flexor digitorum profundus
28. When working sensory defensive child, if they are fearful or hesitant when climbing stairs and hold railings tightly, which sensation are they having a reaction to?
- Visual sensation
 - Vestibular/movement
 - Pain/tactile
 - Touch/tactile
29. Which would be the most appropriate drugs for cervical radiculopathy?
- Omeprazole
 - Parecetamol
 - Gabapentine
 - Vitamin B complex
30. What is the correct compression-to-ventilation ratio for a single rescuer of a 3 years old child?
- 15 compressions to 1 breath
 - 15 compressions to 2 breaths
 - 20 compressions to 2 breaths
 - 30 compressions to 2 breaths

PART II – Short Answer Questions (20 marks)

This part has 4 Short Answer Questions and. Answer ALL the questions. Each question carries 5 marks.

Write short note on the following. Illustrate wherever necessary:

- Thoracic outlet syndrome.
- Describe circle of Willis.
- List down the stages of play and briefly describe each stage.
- Down's Syndrome.

SECTION B: Case Study (50 marks)

Choose either CASE I or CASE II from this section. Each case study carries 50 marks. Mark for each sub-question is indicated in the brackets.

CASE I

Tenzin is a 12 years old boy who had a traumatic brain injury after a fall from a height. He has a remarkably increased tone in his right arm, though no abnormal tone in his left. Before the injury Tenzin was right hand dominant. Tenzin is a very happy boy who is determined to be independent in his daily activities and wants to go back to school. He has received physiotherapy intervention for past 3 months and has been very tolerant to the exercise and play activities. Physiotherapy interventions are particularly based on gait training. At this stage Tenzin can walk without the help of assistive devices on a level ground only. While walking he has a slight toeing in with circumduction at the right hip. Tenzin can communicate his wants and needs easily and sometimes gets frustrated when he is not able to perform activities with his right hand. Now Tenzin wants to go back to his school and his parents are concerned if he would be able to go to school as before. The pediatrician, who initially evaluated Tenzin, recommended an occupational therapy evaluation.

1. What is Tenzin's most likely diagnosis besides traumatic brain injury? (2 marks)
2. Since Tenzin has been recommended for OT evaluation. Write in detail and describe the areas that an OT would assess in a child like Tenzin. (Mention if required any scale or standard assessment tool which can be used during the assessment) (10 marks)
3. What are the activities of daily living that a child of 12 years should be typically doing it independently? (5 marks)
4. What is the one most common physical problem that can develop in a child like Tenzin? (1 mark)
5. After your assessment, what would be your main goal for Tenzin? (5 marks)
6. List down some activities to encourage bi-lateral coordination. (5 marks)
7. Before going back to school, what are the areas/activities that Tenzin needs to be able to do? Describe in detail these areas/activities and what interventions would you provide for Tenzin. (10 marks)
8. Name one medical management that can be given to reduce spasticity. (1 mark)
9. Name one evidence based practice intervention to improve the upper extremity functions.(1 mark)
10. If Tenzin goes back to his school, what are the classroom assessment, accommodations and advices that should be given to the teachers in the school? (10 marks)

CASE II

Mr. Pema, a 37 years old man who suffered stroke 3 months ago visits OT out-patient clinic for rehabilitation program as advised by his physician. He has been admitted for a month in a hospital for the same and thereby discharged upon being medically stable. He is an IT professional working with the Ministry of Information and Communications. It has been learnt that, upon discharge from the hospital, he was left by his wife and a 6 years old son due to his disabling condition. His younger brother has accompanied him as his attendant and Pema could walk independently with a unilateral crutch. Upon examination, Pema could barely move his right hand with muscle power of 2 on MMT and right lower limb with 3+. He understands commands, and communicates with gestures and incomprehensible blabbers.

1. Define stroke (cerebrovascular accident) and describe the types of stroke. What type of stroke has Pema suffered? (5 marks)
2. List down some risk factors and causes of stroke. (3 marks)
3. What is Transient Ischemic Attack? (1 mark)
4. Describe briefly on Neuro-plasticity. (3 marks)
5. Define Aphasia. Describe briefly about different types of aphasia. What type of aphasia is Pema affected with? (5 marks)
6. Describe Manual Muscle Test grades. (5 marks)
7. What are the probable problems of Pema that needs to be addressed? (5 marks)
8. Set goals of rehabilitation for Pema. (5 marks)
9. Describe in detail the OT rehabilitation plans for Pema. (10 marks)
10. Define Community Based Rehabilitation (CBR). State four principles of CBR. (5 marks)
11. State three home program exercises to enhance ADLs. (3 marks)

TASHI DELEK