

पुस्तिका में पृष्ठों की संख्या : 24
Number of Pages in Booklet : 24

प्रश्न-पत्र पुस्तिका संख्या /
Question Paper Booklet No. **5202749**

पुस्तिका में प्रश्नों की संख्या : 180
No. of Questions in Booklet : 180

BSAPPr-02

Paper Code : 18

**SUBJECT : Physical Medicine &
Rehabilitation**

परीक्षा दिनांक :- 11/08/2020

परीक्षा समय :- २:०० To 5:००

समय : 3.00 घण्टे
Time : 3.00 Hours

अधिकतम अंक : 180
Maximum Marks : 180

प्रश्न-पत्र पुस्तिका एवं उत्तर पत्रक के पेपर सील/पॉलिथीन बैग को खोलने के बाद परीक्षार्थी प्रश्न-पत्र पुस्तिका संख्या को उत्तर पत्रक पर सावधानीपूर्वक अंकित करें। इसमें किसी भी प्रकार की त्रुटि होने पर जिम्मेदारी अभ्यर्थी की होगी।

The candidate fill the Question Paper Booklet No. on Answer Sheet carefully after opening the Paper Seal / Polythene bag. Candidate himself shall be responsible for any error.

परीक्षार्थियों के लिए निर्देश

1. सभी प्रश्नों के उत्तर दीजिए।
2. सभी प्रश्नों के अंक समान हैं।
3. प्रत्येक प्रश्न का केवल एक ही उत्तर दीजिए।
4. एक से अधिक उत्तर देने की दशा में प्रश्न के उत्तर को गलत माना जाएगा।
5. प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं, जिन्हें क्रमशः 1, 2, 3, 4 अंकित किया गया है। अभ्यर्थी को सही उत्तर निर्दिष्ट करते हुए उनमें से केवल एक गोले अथवा बबल को उत्तर पत्रक पर नीले बॉल प्वाइंट पेन से गहरा करना है।
6. OMR उत्तर पत्रक इस परीक्षा पुस्तिका के अन्दर रखा है। जब आपको परीक्षा पुस्तिका खोलने को कहा जाए, तो उत्तर-पत्र निकाल कर ध्यान से केवल नीले बॉल पॉइंट पेन से विवरण भरें।
7. प्रत्येक गलत उत्तर के लिए प्रश्न अंक का 1/3 भाग काटा जायेगा। गलत उत्तर से तात्पर्य अशुद्ध उत्तर अथवा किसी भी प्रश्न के एक से अधिक उत्तर से है। किसी भी प्रश्न से संबंधित गोले या बबल को खाली छोड़ना गलत उत्तर नहीं माना जायेगा।
8. मोबाइल फोन अथवा इलेक्ट्रॉनिक यंत्र का परीक्षा हॉल में प्रयोग पूर्णतया वर्जित है। यदि किसी अभ्यर्थी के पास ऐसी कोई वर्जित सामग्री मिलती है तो उसके विरुद्ध आयोग द्वारा नियमानुसार कार्यवाही की जायेगी।
9. कृपया अपना रोल नम्बर ओ.एम.आर. पत्रक पर सावधानीपूर्वक सही भरें। गलत अथवा अपूर्ण रोल नम्बर भरने पर 5 अंक कुल प्राप्तांकों में से काटे जा सकते हैं।

चेतावनी: अगर कोई अभ्यर्थी नकल करते पकड़ा जाता है या उसके पास से कोई अनधिकृत सामग्री पाई जाती है, तो उस अभ्यर्थी के विरुद्ध पुलिस में प्राथमिकी दर्ज कराते हुए विविध नियमों-प्रावधानों के तहत कार्यवाही की जाएगी। साथ ही विभाग ऐसे अभ्यर्थी को भविष्य में होने वाली विभाग की समस्त परीक्षाओं से विवर्जित कर सकता है।

INSTRUCTIONS FOR CANDIDATES

1. Answer all questions.
2. All questions carry equal marks.
3. Only one answer is to be given for each question.
4. If more than one answers are marked, it would be treated as wrong answer.
5. Each question has four alternative responses marked serially as 1, 2, 3, 4. You have to darken only one circle or bubble indicating the correct answer on the Answer Sheet using BLUE BALL POINT PEN.
6. The OMR Answer Sheet is inside this Test Booklet. When you are directed to open the Test Booklet, take out the Answer Sheet and fill in the particulars carefully with blue ball point pen only.
7. 1/3 part of the mark(s) of each question will be deducted for each wrong answer. A wrong answer means an incorrect answer or more than one answers for any question. Leaving all the relevant circles or bubbles of any question blank will not be considered as wrong answer.
8. Mobile Phone or any other electronic gadget in the examination hall is strictly prohibited. A candidate found with any of such objectionable material with him/her will be strictly dealt as per rules.
9. Please correctly fill your Roll Number in O.M.R. Sheet. 5 Marks can be deducted for filling wrong or incomplete Roll Number.

Warning: If a candidate is found copying or if any unauthorized material is found in his/her possession, F.I.R. would be lodged against him/her in the Police Station and he/she would liable to be prosecuted. Department may also debar him/her permanently from all future examinations.

इस परीक्षा पुस्तिका को तब तक न खोलें जब तक कहा न जाए।

Do not open this Test Booklet until you are asked to do so.

1. Which type of nerve fibres has lowest conduction velocity ?
 - (1) $A\alpha$ fibres
 - (2) $A\beta$ fibres
 - (3) $A\delta$ fibres
 - (4) C fibres

2. To differentiate lesion of common peroneal nerve from deep peroneal nerve at fibular head which muscle should be tested with needle EMG ?
 - (1) Long head of biceps femoris
 - (2) Short head of biceps femoris
 - (3) Peroneus longus
 - (4) Tibialis anterior

3. All conditions aids to knee extension in the stance phase, except ?
 - (1) Cushioned heel
 - (2) Posterior offset knee joint
 - (3) Anterior trim line on AFO
 - (4) AFO fixed in plantor flexion

4. What is a correct statement about complex repetitive discharges ?
 - (1) Commonly seen in myopathies
 - (2) Frequency is 10-100 Hz
 - (3) Amplitude is 50-1000 micro-volte
 - (4) All of the above

5. Which is not true regarding FIM (Functional Independence Measure) ?
 - (1) It consist of 18 items
 - (2) It is describe to measure functional ability in daily activities and was designated for disabled population in general
 - (3) It has sub-score value from 1 to 7 to describe the burden of case
 - (4) It has 14 motor and 4 cognitive areas

6. In Galveston Orientation and Amnesia Test (GOAT) how much score on two consecutive testing sessions indicate that the patient is out of PTA (Post Traumatic Amnesia) ?
 - (1) ≥ 50
 - (2) ≥ 66
 - (3) > 71
 - (4) ≥ 76

7. H reflex late response is best described as
 - (1) Having a stable latency from one stimulus to next
 - (2) Polysynaptic reflex
 - (3) Obtained by supramaximal stimulation
 - (4) Arising from a collateral axon sprout

8. Decreasing temperature affects the nerve action potential by
 - (1) Decreasing action potential duration
 - (2) Increasing time to reach peak depolarisation
 - (3) Increasing nerve conduction velocity
 - (4) Decreasing action potential amplitude

9. Out of the following which one is not a component of community based rehabilitation (CBR) matrix ?
 - (1) Health
 - (2) Education
 - (3) Livelihood
 - (4) Spirituality

10. Which of the following is not one of the six determinants of gait ?
- (1) Pelvic tilt
 - (2) Knee extension
 - (3) Lateral displacement of pelvis
 - (4) Pelvic rotation
11. The distance between initial contact of right foot to the following initial contact in right foot is described as ?
- (1) step length
 - (2) cadence
 - (3) stride length
 - (4) stride period
12. The physical therapist of your team reports you a patient on discharge that can ascend and descend stairs with an assistive device and this activity takes more than reasonable time, the discharge Functional Independence Measure (FIM) score for this locomotion item would be ?
- (1) 4
 - (2) 5
 - (3) 6
 - (4) 7
13. At what speed (m/s) normal gait on level surfaces is most efficient ?
- (1) 1 m/s
 - (2) 3 m/s
 - (3) 4 m/s
 - (4) 5 m/s
14. Choose the correct statement.
- (1) Training induced gain in muscle strength and mass are greater with maximal effort eccentric training than maximum effort concentric training.
 - (2) Training induced gain in muscle strength and mass are greater with maximal effort concentric training than maximum effort eccentric training.
 - (3) Greater load can be controlled with concentric exercise than eccentric exercise.
 - (4) Concentric muscle contraction are more efficient metabolically and generate less fatigue than eccentric contraction.
15. The therapeutic frequency range of ultrasound is
- (1) 1 Khz to 3 Khz
 - (2) 1 Mhz to 3 Mhz
 - (3) 10 Khz to 20 Khz
 - (4) 10 Mhz to 15 Mhz
16. Which is not a contraindication to short wave diathermy ?
- (1) Haemorrhage
 - (2) Venous thrombosis or Phlebitis
 - (3) Loss of skin sensation
 - (4) Inflammatory conditions
17. When a biological active substance used as coupling medium for ultrasound therapy to force the active material into tissue is known as
- (1) Fluidotherapy
 - (2) Phonophoresis
 - (3) Intophoresis
 - (4) SWD



18. Which form of ultrasound is FDA approved for use in treating the wounds ?
- (1) Low frequency, non-contact ultrasound
 - (2) High frequency, contact ultrasound
 - (3) Low frequency, contact ultrasound
 - (4) High frequency, non-contact ultrasound
19. Which of the following is not a physiological effect of cold ?
- (1) Decrease conduction velocity
 - (2) Increase spasticity
 - (3) Vasoconstriction
 - (4) Decrease acute inflammation
20. An example of closed kinetic chain exercise for the quadriceps is
- (1) Partial squat
 - (2) An isometric quadriceps set
 - (3) Knee extension sitting on chair
 - (4) Straight leg raise
21. In contrast bath time of immersion in hot and cold bath is
- (1) hot 30 seconds cold 10 seconds
 - (2) hot 10 seconds cold 30 seconds
 - (3) hot 3 minutes cold 1 minute
 - (4) hot 1 minute cold 3 minutes
22. In cervical traction, the optimum angle of pull ranges between
- (1) 5-10 degree of flexion
 - (2) 10-15 degree of flexion
 - (3) 20-30 degree of flexion
 - (4) 40-45 degree of flexion
23. Which best describes type IIb muscle fibres ?
- (1) Fast twitch, anaerobic
 - (2) Slow twitch, aerobic
 - (3) Fast twitch, glycolytic
 - (4) High mitochondrial density
24. Which type of seat cushion has fair resilience ?
- (1) Hybrid cushion
 - (2) Foam cushion
 - (3) High viscosity gel cushion
 - (4) Low viscosity gel cushion
25. Which crutch gait is fastest mode of ambulation ?
- (1) Two point gait
 - (2) Three point gait
 - (3) Swing to gait
 - (4) Swing through gait
26. While instructing a person who had a left CVA to use quad cane which of following is appropriate sequence ?
- (1) Cane in left upper limb, advance cane and right lower limb together
 - (2) Cane in left upper limb, advance cane and left lower limb together
 - (3) Cane in right upper limb, advance cane and right lower limb together
 - (4) Cane in right upper limb, advance cane and left lower limb together

27. While taking measurement for wheelchair which is true ?
- (1) Seat width about 1 inch wider than width of widest part of buttocks
 - (2) Seat depth as to keep 1 to 2 inch gap between popliteal area and front of the cushion
 - (3) Armrest height is determined by measuring the distance between forearm and buttocks
 - (4) All of above
28. In wheelchair following are advantages of camber except
- (1) Enable access of arm to push rim
 - (2) Increases lateral stability
 - (3) Reduces shoulder abduction
 - (4) Increased traction and durability of tires
29. Which is not true regarding terminal devices in upper limb prosthesis ?
- (1) Voluntary opening most commonly used
 - (2) Hooks have lateral pinch grip
 - (3) Voluntary closing devices remains closed in rest
 - (4) Voluntary closing devices provide better closing pressure
30. How much pronation and supination presented in trans-radial amputation can be transmitted to the prosthesis ?
- (1) 50%
 - (2) 70%
 - (3) 80%
 - (4) 90%
31. What is ideal time for prosthesis fitting in upper limb after surgery ?
- (1) 7 days after surgery
 - (2) Within 4-8 weeks
 - (3) After 3 months
 - (4) After 6 months
32. Which is not true regarding bionic hand ?
- (1) Separate motor and sensor in every fingers
 - (2) Electronic thumb can be rotate to 90 degree
 - (3) The digits separately and independently
 - (4) First digit can create multiple grip patterns
33. Single axis foot regarding uses and advantage which is not true ?
- (1) Useful in trans-tibial amputation and weak quadriceps
 - (2) Trans femoral amputation with inadequate control of prosthetic knee joint
 - (3) Aids an individual in walking down a incline
 - (4) None of the above
34. Which is not true regarding PFFD (Proximal Femoral Focal Deficiency) ?
- (1) Second most common congenital deficiency of lower limb
 - (2) Aitken's method is most commonly used and accepted classification system
 - (3) Foot in foot prosthesis is used
 - (4) None of the above

35. Swan neck splint is an example of
- (1) Dynamic splint
 - (2) Serial static splint
 - (3) Static motion block splint
 - (4) Static progressive splint
36. Which type of shoe would you recommend to a runner with hyperpronation of foot ?
- (1) Firm medical heel counter with wide shank
 - (2) Soft medical heel counter with wide shank
 - (3) Firm medical heel counter with narrow shank
 - (4) Soft medical heel counter with narrow shank
37. A custom made PTB AFO can reduce weight bearing in the affected foot by up to
- (1) 100%
 - (2) 75%
 - (3) 50%
 - (4) 25%
38. Which is false regarding posterior offset knee joint ?
- (1) It is useful in patients with weak knee extensor and some hip extensor strength
 - (2) Allows free flexion and extension during swing phase
 - (3) Keeps orthotic ground reaction force in front of knee axis during stance
 - (4) None
39. Which type of knee lock provides the easiest method of simultaneously unlocking the medial and lateral knee joints of KAFO ?
- (1) Drop lock
 - (2) Bail lock or swiss lock
 - (3) Ratchet lock
 - (4) All of the above
40. Which of the cervical orthotics or immobilizer is most effective in blocking the flexion extension movement of cervical spine ?
- (1) Minnerva body jacket
 - (2) Halo devise
 - (3) SOMI brace
 - (4) Four poster brace
41. A patient who will be using prosthesis for some activities more than simple walking with variable cadence and is also a community ambulatory who can traverse most of the environmental barriers, is at which K level ?
- (1) K1
 - (2) K2
 - (3) K3
 - (4) K4
42. Pressure sensitive area of transtibial residual limb include all except
- (1) Shaft of fibula
 - (2) Distal fibula
 - (3) Fibular head
 - (4) Hamstring

43. Which is not true regarding anterior floor reaction AFO ?
- (1) Provide knee extension at mid stance
 - (2) Fabricated to hold ankle slight dorsiflexion
 - (3) Contraindicated in genu recurvatum
 - (4) Used in Crouch gait in cerebral palsy
44. Most common muscle involved in myositis ossificans following contusion in thigh
- (1) Hamstring
 - (2) Popliteal
 - (3) Quadriceps
 - (4) Both (1) and (3)
45. The presence of a small capsular avulsion fracture of the lateral tibial plateau (second fracture) is pathognomic of the presence of tear of
- (1) ACL (Anterior cruciate ligament)
 - (2) PCL (Posterior cruciate ligament)
 - (3) MCL (Medial collateral ligament)
 - (4) LCL (Lateral collateral ligament)
46. According to ACR criteria, diagnosis of fibromyalgia, pain must be inducible by palpation at least at how many points ?
- (1) 9
 - (2) 11
 - (3) 7
 - (4) 5
47. Speed test is done to diagnose the following
- (1) Bicipital tendinitis
 - (2) Shoulder impingement
 - (3) Shoulder stability
 - (4) Supraspinatus tear
48. Cozen's test is specific for
- (1) Lateral epicondylitis
 - (2) Medial epicondylitis
 - (3) Elbow stability
 - (4) Radial and ulnar collateral ligament defect
49. Which is not true regarding adhesive capsulitis of shoulder joint ?
- (1) Normal Radiograph
 - (2) Painful restricted shoulder movements
 - (3) Most frequently seen in age group between 40 to 60 years
 - (4) More common seen in men than women
50. Which is or are red flag sign or signs for low back pain ?
- (1) Use of systemic steroid
 - (2) Difficulty in micturition
 - (3) History of cancer
 - (4) All of the above
51. Methadone hydrochloride works as
- (1) NMDA receptor antagonist
 - (2) GABA agonist
 - (3) Release calcium from sarcoplasmic reticulum
 - (4) Acetylcholine receptor blocker

52. What property of NSAIDs is most likely to cause an acute adverse event when used to treat a patient with severe quadriceps contusion ?
- (1) Anti-inflammatory
 - (2) Analgesic
 - (3) Anti-pyretic
 - (4) Anti-platelet
53. What is mechanism of action of capsaicin ?
- (1) Increases substance P
 - (2) Blocks mu opioid receptors
 - (3) Increases calcitonin gene related peptide
 - (4) Activating vanilloid receptor
54. In low back pain which structure is not innervated and cannot transmit pain ?
- (1) Vertebrae
 - (2) Nucleus pulposus
 - (3) Anterior longitudinal ligament
 - (4) External part of annulus
55. Which structure would be torn in a high grade superior labrum anterior posterior (SLAP) tear ?
- (1) Supraspinatus tendon
 - (2) Long head biceps tendon
 - (3) Subscapularis tendon
 - (4) Coracoacromial ligament
56. Gabapentin work by blocking which of the following ion channels ?
- (1) Sodium
 - (2) Calcium
 - (3) Potassium
 - (4) Magnesium
57. Winging of scapula is caused by injury of pathology of
- (1) Long thoracic nerve
 - (2) Spinal accessory nerve
 - (3) Dorsal scapular nerve
 - (4) All of the above
58. Most common level affected in Degenerative Spondylolisthesis is
- (1) L2-L3
 - (2) L3-L4
 - (3) L4-L5
 - (4) L5-S1
59. Lumbar spine is not involved in which disease ?
- (1) Ankylosing spondylitis
 - (2) Rheumatoid artherities
 - (3) Osteoartherities
 - (4) All of the above
60. Identify the common cause of osteoporosis.
- (1) Postmenopausal
 - (2) Sedentary lifestyle
 - (3) Smoking
 - (4) All of the above
61. Following burn injury transparent face mask device is used to
- (1) Cover the disfigurement
 - (2) Prevent facial scarring and deformity
 - (3) Increase eyelid eversion
 - (4) Prevent infection

62. Burns with blistering, moist, blanches with pressure and having pain is
- (1) 1st degree burn
 - (2) 2nd degree burn
 - (3) 3rd degree burn
 - (4) 4th degree burn
63. In a patient with 3rd degree burn which position would minimise contracture formation
- (1) Hip external rotation
 - (2) Elbow extended and pronated
 - (3) Shoulder abducted 90 degree and internal rotation
 - (4) Knee in full extension
64. Modified Vancouver Scar Scale for measurement of hypertrophic burn scar scores in all domains except
- (1) Pliability
 - (2) Height
 - (3) Vascularity
 - (4) Surface area
65. All are true regarding Psoriatic arthritis except
- (1) Polyarthritits pattern most common
 - (2) Onycholysis
 - (3) Pencil in cup appearance on x-ray
 - (4) Lengthening of digits
66. Joint not involved in Rheumatoid arthritis according to ACR 2010 classification
- (1) Knee
 - (2) Ankle
 - (3) Metatarsophalangeal
 - (4) Tarsometatarsal
67. A 55 year old woman with history of esophageal stricture due to long standing GERD and vasomotor symptoms due to menopause. A recent DEXA showed T score of -2.5 in lumbar spine and -2.6 in left hip. Which drug is most appropriate for her ?
- (1) Denosumab 60 mg subcutaneous every 6 months
 - (2) Ibandronate 150 mg orally once a month
 - (3) Alendronate 35 mg orally weekly
 - (4) Prednisolone 10 mg once daily
68. All are true regarding teriparatide in osteoporosis management except
- (1) Self-administered subcutaneous injection 20 microgram daily
 - (2) Bone antiresorptive action
 - (3) Causes nausea, leg cramps, headache as side effects
 - (4) It is contraindicated in patients with cancer history
69. Which of the following lesion can lead to tethered cord syndrome ?
- (1) Diastematomyelia
 - (2) Meningomyelocele
 - (3) Tight filum terminale
 - (4) All of the above
70. Jefferson fracture is a burst fracture of which vertebrae ?
- (1) C1
 - (2) C2
 - (3) C3
 - (4) C4

71. A young female patient with D4 complete spinal cord injury is unable to experience the following :
- (1) Pregnancy
 - (2) Phycogenic Veginal lubrication
 - (3) Sexual arousal
 - (4) Orgasm
72. Which of the anticonvulsant medication is most likely to cause bone marrow suppression ?
- (1) Carbamazepine
 - (2) Valproic acid
 - (3) Gabapentine
 - (4) Lomatrigene
73. In MRI of cervical spine, which tissue is dark on a T1 weighted image and bright on T2 weighted image ?
- (1) Spinal cord
 - (2) Facet joint
 - (3) Interspinal ligament
 - (4) Nucleous pulposus
74. In complete upper motor neurone (UMN) injury which mode of penile erection is more effective ?
- (1) Phychogenic
 - (2) Reflexogenic
 - (3) Both
 - (4) None
75. What is normal maximum flow rate during the voiding phase of urodynamic study ?
- (1) 15 to 20 ml/sec
 - (2) < 10 ml/sec
 - (3) 20 to 30 ml/sec
 - (4) > 30 ml/sec
76. Which is not a correct statement regarding heterotrophic ossification (HO) following spinal cord injury (SCI) ?
- (1) Serum alkaline phosphatage level is low
 - (2) Hip joint is most common site
 - (3) Triple phage bone scan is gold standard for diagnosis
 - (4) Ossification is extra articular and always found below the level of SCI
77. Which is not true about phrenic nerve stimulation (PNS) ?
- (1) It is useful for the patients with cervical spine injury above C3 level
 - (2) PNS usually not done until 12 months post injury
 - (3) Absent or significant compromised phrenic nerve function is contraindicate for PNS
 - (4) None of the above
78. Which investigation is preferred to diagnose the nerve root avulsion in a patient of spinal cord injury with non-titanium shoulder plate ?
- (1) MRI scan
 - (2) MRI myelography
 - (3) CT Scan
 - (4) CT myelography

79. Which type of odontoid fracture is associated with greater risk of non-union ?
- (1) Type I
 - (2) Type II
 - (3) Type III
 - (4) Both (1) and (3)
80. A SCI individual at which neurological level has potential to be independent in transfers on level surfaces, upper body dressing and manual wheelchair propulsion on even terrain (except curbs)
- (1) C4
 - (2) C5
 - (3) C6
 - (4) C7
81. Which of the following drugs is a surfactant laxative agent that is used for constipation ?
- (1) Docusate sodium
 - (2) Lactulose
 - (3) Castor oil
 - (4) Sorbitol
82. Moving the wheelchair axle anteriorly has an advantage of
- (1) Stability is increased
 - (2) Maneuverability is increased
 - (3) Both stability and maneuverability are increased
 - (4) Maneuverability is decreased
83. Which is true regarding zone of partial preservation in SCI assessment ?
- (1) Motor ZPPs are defined and should be documented in all cases including patients with incomplete injuries with absent voluntary anal contraction (VAC).
 - (2) The sensory ZPP on a given side is defined in the absence of sensory function in S4-5 (LT, PP) on this side as long as DAP is not present.
 - (3) In cases with present DAP, sensory ZPPs on both sides are not defined and should be noted as "not applicable (NA)"
 - (4) All of the above
84. In a person with chronic spinal cord injury (SCI) at 2 year post injury the most common location for a pressure ulcer is
- (1) Trochanter
 - (2) Ischium
 - (3) Elbow
 - (4) Sacrum
85. Which of the following statement is true regarding spinal cord injury without radiographic abnormality (SCIWORA) ?
- (1) A young children have a high predisposition for SCIWORA due to ligamentous flexibility and skeletal mobility immature spine
 - (2) One of the major criteria for SCIWORA is the presence of a negative magnetic resonance imaging (MRI) study
 - (3) Lumbar region of spinal cord more prone
 - (4) The adolescent population is most susceptible to SCIWORA through sports injuries especially in football

86. Assuming all the below patients have normal urinary tract anatomy; choose the best suitable patient for intermittent catheterization (IC) among patients with spinal cord injury (SCI) in your inpatient rehabilitation unit.
- (1) 70 year old female with central cord syndrome and rheumatoid arthritis
 - (2) 18 year old male with T5 complete paraplegia and autonomic dysreflexia
 - (3) 35 year old male with T9 incomplete paraplegia and hypercalcemia
 - (4) 23 year old female with T10 complete paraplegia and spontaneous bladder contractions
87. In the population with spinal cord injury (SCI) a posttraumatic syringomyelia is
- (1) most commonly presented as pain in the clinical setting
 - (2) pain is mostly neuropathic in nature
 - (3) often associated with dissociated sensory loss
 - (4) All of the above
88. A spinal cord injury patient with grade 3 spasticity having spasm frequency of 5 in one hour; please define the grade of spasm according to Penn spasm frequency score.
- (1) 1
 - (2) 2
 - (3) 3
 - (4) 4
89. An example of utilizing the gastrocolic reflex in the management of neurogenic bowel would be
- (1) Timed defecation within half hour after meals
 - (2) Prescribing senna 1 to 4 tablets orally daily at noon
 - (3) Digitally stimulating inside rectum
 - (4) Abdominal massage
90. A presentation for a high back power wheelchair with tilt and recline headrest, modified joystick and upper extremity support is best suited for a tetraplegia patient with the neurological level of
- (1) C8
 - (2) C5
 - (3) C7
 - (4) T2
91. Which of following is a risk factor for the development of heterotopic ossification in SCI?
- (1) Female Gender
 - (2) Level of lesion
 - (3) Spasticity
 - (4) Neuropathic pain
92. Which respiratory muscles are expected to still be functional in a patient with complete C7 tetraplegia?
- (1) Accessory muscles
 - (2) Accessory muscles and diaphragm
 - (3) Accessory muscles, diaphragm and intercostal muscles
 - (4) Accessory muscles, diaphragm and intercostal muscles and abdominal muscles

93. A typical metabolic change seen after Spinal Cord Injury (SCI) is
- (1) Decreased testosterone
 - (2) An increased HDL
 - (3) Gain in muscle mass
 - (4) An increased rate of hypoglycemia
94. Regarding tendon transfer; tendon to be transferred should have all except
- (1) Muscle to be transfer must have good strength or better as it loses 1 grade power after transfer
 - (2) Range of excursion similar to one it is reinforcing
 - (3) Adequate nerve and blood supply
 - (4) Transferred to antagonist muscle
95. Which clinical finding is not indicative of a ruptured Achilles tendon ?
- (1) Negative Thompson test
 - (2) Absent Achilles reflex
 - (3) Lack of toe off during gait cycle
 - (4) A palpable defect in musculotendinous unit
96. Which of the following is not present in metabolic syndrome ?
- (1) Fasting glucose greater than 110 mg%
 - (2) Triglycerides greater than 150 mg%
 - (3) HDL cholesterol less than 50 mg%
 - (4) Waist circumference less than 80 cm
97. What is the most common cause of sudden cardiac arrest in a athletes ?
- (1) Coronary artery anomaly
 - (2) Ventricular fibrillation
 - (3) HCM (Hypertrophic cardiomyopathy)
 - (4) Commotio cordis
98. Which finding correlates with a high risk for ischemic ulceration ?
- (1) Ankle brachial Index (ABI) of 0.40
 - (2) Transcutaneous oxygen (TcPo₂) of 50 mm hg
 - (3) Serum albumin 3.2 gm/dl
 - (4) Stenotic lesion of superficial femoral artery
99. In negative pressure wound therapy for wound healing how much pressure is applied ?
- (1) 100 mm Hg below ambient
 - (2) 50 mm Hg below ambient
 - (3) 125 mm Hg below ambient
 - (4) 75 mm Hg below ambient
100. General principle of childhood amputation surgery are all except
- (1) preserve length
 - (2) perform transosseous rather than disarticulation
 - (3) preserve growth plate
 - (4) stabilize proximal portion of limb

101. Which of following is true regarding below knee amputation in ischemic limb ?

- (1) Tourniquet is used
- (2) Equal anterior and posterior flap
- (3) Long posterior flap and short anterior flap
- (4) Tension myodesis is done

102. Competitive female athletes are at high risk of stress fracture if she has the female athlete triad of

- (1) Amenorrhoea, anorexia, osteoporosis
- (2) Amenorrhoea, hypertension, osteoarthritis
- (3) Bulimia, diabetes mellitus, osteoporosis
- (4) Anorexia, short stature, hypothyroidism

103. Which is not released in Steindler procedure done for cavus deformity ?

- (1) Flexor digitorum brevis
- (2) Adductor hallucis brevis
- (3) Abductor digiti quinti muscle
- (4) Peroneus brevis

104. What is the most important factor to consider while injecting myofascial trigger points ?

- (1) Type of medication injected
- (2) Accurate location of trigger point
- (3) Frequency of injections
- (4) Size of needle

105. Which nerve innervates the L4-L5 facet joint in lumbar spine ?

- (1) L2 and L3 medial branches
- (2) L3 and L4 medial branches
- (3) L4 and L5 medial branches
- (4) L5 dorsal ramus

106. For neurogenic detrusor over activity; cystoscopic guided injection of Botulinum toxin type A in bladder wall approved dose is

- (1) 200 units distributed in 30 sites
- (2) 300 units distributed in 30 sites
- (3) 400 units distributed in 30 sites
- (4) 200 units distributed in 10 sites

107. Which is true for Botulinum toxin in comparison to phenol blockade ?

- (1) Botulinum toxin injection is relatively easy to administration
- (2) Botulinum toxin injection is associated with higher incidence of dysesthetic pain
- (3) Botulinum injection produces neurolysis
- (4) Effect of Botulinum injection is observed within 24 hrs.

108. Which of the following steroids has shortest serum half-life ?

- (1) Triamcinolone
- (2) Dexamethasone
- (3) Methylprednisolone acetate
- (4) Betamethasone

109. Anterior cerebral artery lesion will result in all except
- (1) Contralateral hemiplegia
 - (2) Contralateral hemianaesthesia
 - (3) Ipsilateral upper limb sensory loss
 - (4) Head or eye turning toward lesion
110. Which is true regarding glossopharyngeal breathing (GPB)?
- (1) It is a form of voluntary breathing
 - (2) Air is pumped into the lungs by the patient using the tongue as a piston
 - (3) It increase vocal volume and flow of speech
 - (4) All of the above
111. In obstructive pulmonary disorder the FEV1 and the ratio of FEV1/FVC are
- (1) Both FEV1 and FEV1/FVC ratio decreased
 - (2) FEV1 decrease and FEV1/FVC ratio increase
 - (3) FEV1 increase and FEV1/FVC ratio decrease
 - (4) Both FEV1 and FEV1/FVC ratio increase
112. Which of the following clinical manifestations or signs seen in Parkinsonism disease?
- (1) Tremor
 - (2) Rigidity
 - (3) Bradykinesia
 - (4) All of the above
113. What is true regarding the Morton's neuroma?
- (1) Is caused by irritation of one of the inter-digital nerve
 - (2) Most common location is between 2nd and 3rd meta-tarsal head
 - (3) Pain is relief with high heel shoes
 - (4) All of the above
114. What is the most appropriate prescription for a patient with progressive communication deficits due to flaccid dysarthria secondary to amyotrophic lateral sclerosis?
- (1) Computer based augmentative communication system
 - (2) Articulation training
 - (3) Adaptive speech strategies such as slow speaking rate
 - (4) Speech exercise emphasising optimum performance
115. A child with Duchenne muscular dystrophy, which muscle group has is earliest and most significant weak at the time of presentation?
- (1) Proximal muscles of upper extremity
 - (2) Proximal muscles of lower extremity
 - (3) Distal muscles of upper extremity
 - (4) Distal muscles of lower extremity

116. Which is not a correct statement regarding Guillain Barre syndrome ?

- (1) It is also known as acute inflammatory demyelinating polyneuropathy
- (2) Hyporeflexia or areflexia early in disease
- (3) Progressive and symmetrical weakness of limbs
- (4) Autonomic dysreflexia

117. What is the first line treatment of choice for the pain in the patient with acute spinal pain due to bony metastasis ?

- (1) NSAIDs
- (2) Codeine
- (3) Methadone
- (4) Morphine

118. Benediction hand is seen in

- (1) Proximal ulnar nerve injury
- (2) Distal ulnar nerve injury
- (3) Proximal radial nerve injury
- (4) Distal radial nerve injury

119. Which of the following clinical condition is not a contraindication for the exercise during the cardiac rehabilitation programme ?

- (1) Stable angina
- (2) Uncontrolled arrhythmias
- (3) Resting systolic blood pressure is greater than 200 mm Hg
- (4) Resting diastolic blood pressure is greater than 110 mm Hg

120. Regarding fascioscapulothoracic dystrophy which statement is incorrect ?

- (1) Autosomal recessive
- (2) Majority of patients has asymptomatic high frequency sensory neural hearing loss
- (3) Most of the patients demonstrated asymmetrical weakness by the age of 20 years
- (4) Facial weakness and lateral winging scapula seen

121. A patient presented in the OPD with the examination finding of involuntary, slow, writhing and snake like movements at his wrist, fingers and ankle; this clinical condition is known as

- (1) Tremor
- (2) Ballismus
- (3) Chorea
- (4) Athetosis

122. A traumatic brain injury patient is admitted in ICU and on examination exhibits random, fragmented and non-purposeful response to complex or unstructured stimuli and is non-agitated; define his Ranchos level of cognitive functioning scale

- (1) 3
- (2) 4
- (3) 5
- (4) 6

123. Locked in syndrome can be due to infarct of

- (1) Basilar artery affecting pons
- (2) Anterior cerebral artery affecting at frontal lobe
- (3) Middle cerebral artery affecting parietal lobe
- (4) Posterior cerebral artery affecting occipital lobe

124. Identify the symptom not present in normal pressure hydrocephalus.

- (1) Dementia
- (2) Ataxic gait
- (3) Urinary incontinence
- (4) Hearing loss

125. What is the reversible cause cancer related fatigue ?

- (1) Anaemia
- (2) Cachexia
- (3) Deconditioning
- (4) All of the above

126. Which is most common subtype of multiple sclerosis ?

- (1) Relapsing remitting
- (2) Primary progressive
- (3) Secondary progressive
- (4) Progressive relapsing

127. Parkinsonism is due to lesion in

- (1) Corpus luteum
- (2) Corpus striatum
- (3) Corpus callosum
- (4) Substantia gelatinosa

128. All are true regarding post-radiation brachial plexopathy except

- (1) MRI is helpful in diagnosis
- (2) presence of myokymia on needle EMG
- (3) most of the patients present with painful and muscle weakness around shoulder and or proximal arm
- (4) commonly seen in patients with breast cancer or lung cancer receiving fraction of greater than 2.2 Gy and cumulative 44 Gy dose of radiation

129. Regarding cardiac rehabilitation phase 2 which is correct ?

- (1) Started during acute care hospitalisation
- (2) ECG monitoring is not done
- (3) It is based on parameters determined by exercise stress test
- (4) Only ROM and early mobilisation exercises are done during this phase

130. Which rapidly progressive hereditary LMN disorder occurs in infancy and causes death by age of around two (2) years ?

- (1) Spinal muscular atrophy (SMA)
- (2) Duchenne muscular dystrophy
- (3) Progressive muscular atrophy
- (4) Primary lateral sclerosis

131. In men the energy cost of sexual activity typically doesn't exceed by how many metabolic equivalents ?

- (1) 2
- (2) 5
- (3) 10
- (4) 15

132. While managing a patient of lymphedema with complete or complex decongestive therapy (CDT), use of compression garments facilitated the following except

- (1) improve lymphatic drainage and reduce accumulated protein
- (2) decreased the venous return
- (3) properly shape and reduce the size of limb
- (4) maintain skin integrity



133. In three zone model of lung (West's zone of lung), which zone has maximum perfusion in upright position ?
- (1) Zone 1
 - (2) Zone 2
 - (3) Zone 3
 - (4) All zones has equal perfusion
134. Which is gold standard for prenatal diagnosis of myelomeningocele ?
- (1) Ultrasound
 - (2) Serum AFP
 - (3) Chromosomal assay
 - (4) Amniocentesis
135. Which is the incorrect statement for the Arnold – Chiari II malformation ?
- (1) Is characterised variable displacement of cerebellar tissue into spinal canal
 - (2) Accompanied by cranial displacement of lower brainstem and fourth ventricle
 - (3) It is one of the leading cause of death in infants with MMC
 - (4) Patient may present with apnoea, cyanosis bradycardia
136. Which of the following is not associated with Down syndrome ?
- (1) Hypotonia
 - (2) Flat facies
 - (3) Mental deficiency
 - (4) Long neck
137. You are examining a child of 5 months age presence of which primitive reflex would you concern about ?
- (1) Plantar grasp
 - (2) Moro reflex
 - (3) Palmar grasp
 - (4) Asymmetric tonic neck reflex
138. Which neuromuscular therapy to a cerebral palsy patient emphasizes on normalising tone, inhibit primitive reflexes and facilitate automatic reaction and normal movement pattern ?
- (1) Bobath neurodevelopmental therapy
 - (2) Rood sensorimotor approach
 - (3) Brunnstrom approach
 - (4) Doman delacato pattern therapy
139. A child with GMFCS 3 level demonstrates the following
- (1) walking without assisted device
 - (2) use power wheelchair indoors and outdoors
 - (3) transported in manual wheelchair
 - (4) walking using assisted device indoors
140. At what age should a child starts to tie shoes, copies a diamond, can walk securely on a balance beam and can play involves games with rules ?
- (1) 4 year
 - (2) 3 year
 - (3) 6 year
 - (4) 5 year
141. Which physiological changes related to aging is included among factors that necessitate decrease loading dose for water soluble medicines ?
- (1) Decrease fat mass
 - (2) Decrease total body water
 - (3) Decrease intestinal motility
 - (4) Decrease cardiac output

142. Which physiological factor in elderly persons exacerbates orthostasis ?
- (1) Decrease in arterial stiffness
 - (2) Decrease in peripheral resistance
 - (3) Decrease baroreceptor response
 - (4) Decrease creatinine clearance
143. Which is most common congenital limb deficiency ?
- (1) Phocomelia
 - (2) Transhumeral deficiency
 - (3) Right terminal transradial deficiency
 - (4) Left terminal transradial deficiency
144. After cardiac transplant
- (1) resting pulse is reduced as a result of increased vagal tone
 - (2) cardiac output does not respond to exercise
 - (3) Exercise intensity is gauged by Borg scale of perceived exertion
 - (4) Peak heart rate is typically 25% higher than age matched controls
145. All are true regarding sympathetic storm in traumatic brain injury except
- (1) Clinical manifestation includes tachycardia, tachypnea, hypertension, hyperthermia and dystonia
 - (2) When uncontrolled it may result in arrhythmias, cardiac infraction or neurogenic pulmonary oedema
 - (3) Usually associated with mild form of traumatic brain injury
 - (4) First line management drugs are propranolol and opioids
146. All drugs are used for pharmacological management of Autonomic dysreflexia except
- (1) Amlodipine
 - (2) Nifedipine
 - (3) Captopril
 - (4) Prazosin
147. Regarding sexual or reproductive function in women with spinal cord injury (SCI) which is correct ?
- (1) Autonomic dysreflexia can occur with labor contractions in women with T6 or higher injury
 - (2) Women missing sensation in the T11 – L2 dermatomes cannot experience psychogenic arousal
 - (3) Women with intact bulbocavernous reflex can experience orgasm
 - (4) All of above
148. Which of the following statements is true regarding sexual function in males after spinal cord injury (SCI) ?
- (1) Most men will retain the ability to ejaculate during sexual intercourse
 - (2) Reflexogenic erections are uncommon
 - (3) Intracavernosal injection therapy can induce erections
 - (4) Sildenafil can induce ejaculation
149. A diagnosed case of Haemophilia-A is presented in the disability evaluation board for disability scoring. The patients is presented with 20° flexion contracture at left knee joint, his factor level less than 1%, and also giving history of 4 episodes of joint bleed in last 5 months. What is the patient's disability score ?
- (1) 40-50%
 - (2) 51-60%
 - (3) 60-79%
 - (4) 80-85%



150. A patient of CVA with left side hemiparesis came to the disability board for disability certificate. On clinical examination grade one spasticity was noted in left upper and lower limb; he was able to look after his own affairs without any assistance but was unable to carry out all previous activities. Determine the patient's disability score.

- (1) Less than 40%
- (2) 40% to 50%
- (3) 51% to 60%
- (4) 61% to 80%

151. As per Rights of Person with Disability Act 2016, reservation in government jobs for person with benchmark disability is not less than

- (1) 4%
- (2) 5%
- (3) 6%
- (4) 3%

152. According to WHO classification an example of impairment is

- (1) Hypertension
- (2) Weakness of one arm
- (3) Loss of ability to do dress
- (4) Need AFO to walk

153. A patient has one 1 inch shortening of his left lower limb; what is the additional weightage in disability score calculation is as far as his shortening is concern ?

- (1) 1%
- (2) 2%
- (3) 4%
- (4) 6%

154. On short axis musculoskeletal ultrasound imaging which structure has honeycomb appearance (in transverse appearance) ?

- (1) Ligament and tendon
- (2) Nerve
- (3) Muscle
- (4) Bone

155. Which is not true regarding neuromuscular stimulation ?

- (1) Use to improve functions in SCI patients
- (2) Useful in poliomyelitis
- (3) Recruitment of slow twitch fibres is most desirable
- (4) Ideal stimulation frequency ranges between 12-16 Hz for upper extremity

156. All are true regarding Intrathecal Baclofen Therapy (ITB) for treating spasticity as compare to oral baclofen except

- (1) ITB allows around 100 fold increases in potency
- (2) ITB allows more exposure of drug to brain so it is more sedative as compare to oral baclofen
- (3) ITB is usually recommended to control lower limb spasticity
- (4) ITB catheter is usually placed around T10 vertebral body

157. Complication of shock wave treatment are all except
- (1) Soft tissue swelling
 - (2) Muscle weakness
 - (3) Nerve lesion
 - (4) Transient bone oedema
158. The following is an advance robotic gait training devices use for the peoples with spinal cord injury :
- (1) Tethered exoskeletons
 - (2) End effector device
 - (3) Patient guided suspension system
 - (4) All of the above
159. What is minimum door width requirement for a disabled person who is walking with the help of axillary crutch ?
What is minimum clear floor ground area required to turn a wheelchair ?
- (1) 920 mm
 - (2) 600 mm
 - (3) 810 mm
 - (4) 1220 mm
160. Choose the correct statement for Platelet Rich Plasma (PRP) therapy
- (1) EDTA is the preferred anti-coagulant while preparing the PRP
 - (2) Exogenous activation of PRP solution is possible before injection
 - (3) It is a FDA approved treatment in rheumatoid arthritis
 - (4) There is no roll of environmental temperature while preparing PRP
161. Which is true regarding platelet rich plasma (PRP) injections ?
- (1) Leucocyte rich PRP are better for muscle and tendon injury
 - (2) Leucocyte poor PRP is better for intra-articular injection
 - (3) Leucocyte rich PRP has pro-inflammatory cells for better wound healing
 - (4) All of the above
162. Networked Neuroprostheses (NNP), a latest innovation in implanted Neuroprosthesis for SCI people, which statement regarding this prosthesis is incorrect ?
- (1) Stimulate paralysed muscles throughout the body
 - (2) Record myoelectric signals from muscles under voluntary control
 - (3) No temperature monitoring is required
 - (4) 3 axis accelerometer data to record torso and upper extremity motion
163. Scott-Craig orthosis is used in
- (1) Grade 3 OA knee
 - (2) Anterior cruciate ligament tear
 - (3) Paraplegia
 - (4) Cerebral palsy

164. Which is characteristic of first order lever in biomechanics ?

- (1) Fulcrum lies between load and effort
- (2) Effort between fulcrum and load
- (3) Load between fulcrum and effort
- (4) Lever has mechanical disadvantage

165. Posterior inferior cerebellar artery is the branch of

- (1) Basilar artery
- (2) Internal carotid
- (3) Vertebral
- (4) Posterior cerebral

166. Mini mental status examination includes testing of

- (1) Orientation
- (2) Language
- (3) Attention
- (4) All of above

167. Trail making test examines the functions of which lobe of brain ?

- (1) Frontal
- (2) Parietal
- (3) Temporal
- (4) Occipital

168. Patient not able to read or unable to understand the written speech can be described as

- (1) Alexia
- (2) Agraphia
- (3) Acalculia
- (4) Agnosia

169. Onuf nucleus is related to which innervation in bladder ?

- (1) Hypogastric
- (2) Pelvic
- (3) Pudental
- (4) Sympathetic

170. Which of the following cells is responsible for blood brain barrier in central nervous system ?

- (1) Schwann cell
- (2) Astrocyte
- (3) Microglia
- (4) Oligodendrocyte

171. Which of the following muscle is not a medial rotator of shoulder joint ?

- (1) Pectoralis major
- (2) Latissimusdorsi
- (3) Teres major
- (4) Infraspinatus

172. A patient's signs and symptoms include severe impaired auditory comprehension and very limited speech. The patient is able to produce few understandable utterances and the speech is marked by preservative utterances and repeatedly. This kind of aphasia is called as

- (1) Wernicks aphasia
- (2) Transcortical motor aphasia
- (3) Conduction aphasia
- (4) Global aphasia

173. With left hemispheric stroke what manoeuvre can be employed to prevent pooling of food in right pyriform sinus ?

- (1) Head rotation to left
- (2) Head tilt to left
- (3) Chin tuck
- (4) Mendelson maneuver

174. Radial nerve is branch of which part of brachial plexus ?

- (1) Upper trunk
- (2) Lateral cord
- (3) Lower trunk
- (4) Posterior cord

175. Which is not a branch of lateral cord of brachial plexus ?

- (1) Lateral pectoral nerve
- (2) Musculocutaneous nerve
- (3) Lateral root of median nerve
- (4) Medial pectoral nerve

176. Which is not a correct statement ?

- (1) Iliacus muscle is innervated by femoral nerve and is hip flexor muscle
- (2) Sartorius is inserted at anterior surface of tibia just inferomedial to tibial tuberosity
- (3) Psoas major muscle is innervated by femoral nerve and is a hip flexor
- (4) Rectus femoris is inserted at quadriceps femoris tendon and is hip flexor and knee extensor

177. Which is not true regarding facet joint of spine ?

- (1) Facet joint capsule is tight anteriorly and lax posteriorly
- (2) Axial load during spine extension causes injury to superior aspect of the capsule
- (3) Facet joints are innervated by branches of dorsal primary rami
- (4) Thoracic facet joints are oriented 45° angle in horizontal plane

178. Which is not true regarding group Ia and II fibres ?

- (1) Myelinated sensory afferent fibres.
- (2) Group Ia fibres convey phasic and tonic stretch information
- (3) Group II fibres innervate static nuclear bag and chain fibres
- (4) Group II fibres convey phasic changes in muscle length

179. Centre of gravity of adult human in the anatomical position is slightly ?

- (1) Anterior to L4 Vertebra
- (2) Anterior to L5 Vertebra
- (3) Anterior to S1 Vertebra
- (4) Anterior to S2 Vertebra

180. The centre of gravity displaced to the highest level during which phase of gait cycle ?

- (1) Pre-swing
- (2) Mid-stance
- (3) Terminal-stance
- (4) Mid-swing

रफ कार्य के लिए स्थान / SPACE FOR ROUGH WORK

