Q. 1  A 25-years-old male with history of road traffic accident had traumatic brain injury (TBI). MRI scan shows injury to the frontal lobe.

   a) What behavioral problems are common following frontal lobe injury?  
   b) How can these behavioral problems be managed at rehabilitation settings?  
   c) How common are seizures following brain injury? Can they affect the patient's mental status?  

Q. 2  A 48-year-old female presented with paresthesia Rt. Hand of 6 months duration. On examination sensation in lateral 3 fingers are impaired. There is wasting of thenar muscles and power in flexor pollicis longus & pronators is reduced.

   a) What is the differential diagnosis in this patient?  
   b) What is the normal pressure in carpal canal & pressure in CTS (Carpal Tunnel Syndrome)?  
   c) What are the factors predictive of poor outcome from non-operative treatment?  

Q. 3  A 45-years-old patient, known case of cervical spondylosis for the last one year has presented with pain and numbness of right upper limb of three weeks duration. On examination ROM neck are reduced & painful sensations are impaired in thumb and index finger right. Supinator jerk is depressed on right side.

   a) What is the likely diagnosis?  
   b) What are the indications for spinal traction?  
   c) What should be the weight, applied time & position of the neck for mechanical cervical traction?  
   d) What contraindication you will keep in mind while prescribing magnetic therapy to this patient?
Q.4 A 35-year-old patient sustained bullet injury to spine resulting in SCI T₅ ASIA A. He was married two years ago and is concerned with his sexual rehabilitation.

a) What are different aids for erection and ejaculation?

b) Where are centres for erection and ejaculation in spinal cord?

Q.5 A 36-year-old man developed severe backache radiating to right lower limb. On examination SLR is restricted on right side and ankle jerk is depressed. His MRI revealed disc protrusion and LV5-S1 level.

a) What features you will expect if the patient develops Cauda Equina syndrome?

b) What aggravates spinal stenosis pain?

c) When will you consider surgery in patients with radiculopathy?

Q.6 A 22-year-old tennis player has presented with pain in right elbow and weakness of the wrist and finger extensors. There is no sensory loss. His NCS/EMG revealed low CMAP of Radial nerve on the right side, radial sensory study is normal. EMG revealed denervation potential in extensor indicis proprius and extensor digitorum communis. There were normal EMG patterns in extensor carpi radialis longus and brachioradialis.

a) What is the likely diagnosis?

b) Why extensor carpi radialis longus and brachioradialis are spared?

c) What is arcade of Frohse?

Q.7 A 2 months old boy, a diagnosed case of arthrogryposis is brought to your clinic for comprehensive rehabilitation.

a) What is the new name for this condition?

b) What are the different categories (classification) of arthrogryposis?

c) What will be your rehabilitation plan to treat the lower limb deformities in this patient?
Q.8 A 25-year-old patient presented with weakness of left side of face and inability to blink eye. She complained of accumulation of food between cheek and teeth on affected side.

a) What is the likely diagnosis?
b) What are the causes of bilateral facial nerve paralysis?
c) Mention reflexes involving the facial nerve.

Q.9 A 52-year-old woman has presented with stroke. On examination there is 3rd nerve palsy on Right side & loss of joint position & pain / temperature sensation of face & body on left side. She is also having ataxia & choreic movements on left side.

a) What is the likely diagnosis?
b) What are the barriers to motor recovery in stroke patients?
c) What is constraint induced movement therapy (CIMT)?

Q.10 A trans tibial amputee who was fitted with prosthesis 06 months back, reports to amputee rehab clinic with complain of pain in stump.

a) What are the common intrinsic causes of residual limbs pain? 
b) What are various suspension types in Below knee amputation (just name)? 
c) What is energy expenditure in unilateral BKA (bil), BKA and unilateral AKA?
Q.11 A 45-years-old male came to your clinic with a history of chronic asthma for the last 10 years. He is using inhalers. His blood pressures and blood glucose level are within normal limits. He has not undergone any pulmonary function test, or any chest exercise.

a) What are the goals of pulmonary rehabilitation?
b) How reconditioning exercises should be prescribed?
c) What are the benefits of rehabilitation in this patient?

Q.12 A 58-year-old bilateral above knee amputee who is using prosthesis for cosmetic purpose has been prescribed manual wheel chair (due to cardiac problem as he is unable to walk with prosthesis)

a) What advice you will give regarding back height, arm height, seat depth & seat width measurement?
b) What alterations are required in bilateral amputee wheelchair & why?
c) How will you classify wheel chairs depending on the weight of wheelchair? What is the indication of prescribing heavy wheelchair?

Q.13 a) What is cardiac rehabilitation?
   b) What are the different phases of cardiac rehabilitation?
   c) Mention the components of phase II cardiac rehabilitation.

Q.14 A 22-year-old male athelete (runner) presented with lateral knee pain after excessive running. According to him pain intensity is decreased when he increases his speed. On examination tenderness is at lateral condyle of femur with mild swelling. Signs of joint effusion are negative.

a) What is your diagnosis?
b) How will you treat this patient?
c) What are the causes of medial knee pain?
Q.15 A 34-years-old school teacher, developed wrist drop after fracture of right humerus. His electrodiagnostic studies done 2 months after injury revealed radial nerve injury with evidence of axonal involvement with intact supply to triceps.

a) What is your rehabilitation plan for this patient?
b) What will be your plan if there is no recovery after 20 months of the injury?

Q.16 A 1-year-old baby boy is brought in the clinic with history of deformed elbows, stiff neck and tight tendoachilles. Mother says, he stands on tip toes only. Physical examination shows, normal deep tendon reflex (DTR) and tone, elbow flexion contractures, tight tendoachilles, decreased neck flexion, bradycardia. Mother also gives history of elder son having same problem who is now unable to walk and presently taking some cardiac treatment.

a) What is the most likely diagnosis, if you find prolonged P-R interval on ECG?
b) Name the relevant investigations.
c) What is the malignant hyperthermia, if it occurs in such patient?

Q.17 A 36-year-old telephone operator after performing prolonged duties, presented with pain and paresthesias along the forearm and left hand. On examination sensation in distribution of ulnar nerve are impaired, deep tendon reflexes are normal and Tinel's sign is positive at elbow.

a) What is the likely diagnosis?
b) What is Wartenberg sign?
c) How will you differentiate ulnar nerve lesion at canal of Guyon from lesion at elbow by NCS/EMG?
Q.18 A 6-years-old girl came to OPD with bent knees, toe walking cross legs, her birth history reveals birth at 31 weeks of gestation by C-section with 1.8 kg weight and delayed crying of 20 minutes. She had delayed milestones with neck holding at 8 months, sitting at 1 ½ year and standing at 3 years. Now she has assisted walking, on examination primitive reflexes were absent, tone was increased in bilateral lower limbs. Reflexes were exaggerated planters were bilaterally upgoing. Bilateral upper limb examination is normal.

a) What is the likely diagnosis?
b) Which deformities will you come across in this type of gait?
c) What problems does the spasticity cause?

Q.19 A 55-year-old banker with poorly treated hypertension presents with sudden moderate left-side hemiparesis, moderate sensory deficits, left neglect, nocturnal bladder incontinence and dysarthria. He is alert, oriented, motor function in his left hip and knee is returning and he has an elevated serum cholesterol level but normal ECG. CT scan of the head shows moderate right Subcortical infarction.

a) Write rehabilitation problem and plans for this patient.
b) What cardiac precautions should be observed to terminate exercises?

Q.20 As a physiatrist prescribe the activity pyramid model to health organization in order to facilitate the education of public about the adoption of everyday and weekly active life style.

The End