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34(2) EXTH 2.3

2012

(April)

### EXERCISE THERAPY

Full Marks : 100

Time : Three hours

*The figures in the margin indicate full marks for the questions.*

1. *Essay Type Question : (any two)* 10×2=20
  - (a) Elaborate Massage along with its classifications. Write about the indications and contraindications of each.
  - (b) Explain PNF. Describe the various principles and techniques used along with their effects.
  - (c) Define contractures with its types. Write about the various mechanical and neurophysiological properties of contractile tissues.

*Contd.*

2. Short Essay Type Question : (any ten) 5×10=50

- (a) Break Test.
- (b) Various progressive resistance exercises used in physiotherapy.
- (c) Explain Axial, Vertical and Pendular suspension therapy.
- (d) Frenkel exercises — Short note.
- (e) Various principles of Asanas.
- (f) What do you understand by overload principle in endurance training?
- (g) MMT of Hamstring muscle.
- (h) Indications and Contraindications of mobilisation.
- (i) Various properties of water used for therapeutic purpose.
- (j) Relaxation techniques — Short note.

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(k) List out various types of goniometers. Mention the principles and limitation of universal goniometer.

(l) Explain various derived positions of lying with line diagrams.

3. Short Answer Type : (any five) 5×2=10

- (a) Plasticity and Elasticity.
- (b) End feel along with its types.
- (c) Disadvantage of group exercises.
- (d) Measurement of low mat along with its uses.
- (e) Three point gait.
- (f) Quadricep self stretching.
- (g) Active movements — Short note.

4. MCQ (All Compulsory) : 20×1=20

- (i) Action of Rhomboid muscle is —
  - (a) Scapular abduction and downward rotation

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- (b) Scapular abduction and upward rotation
  - (c) Scapular adduction and downward rotation.
  - (d) Scapular adduction and upward rotation.
- (ii) Sustained Translatory Joint Play technique is given by —
- (a) Maitland
  - (b) Kaltenborn
  - (c) Cyrian
  - (d) Hippocrates.
- (iii) Forearm support crutches is also known as —
- (a) Axillary crutch
  - (b) Elbow crutch
  - (c) Gutter crutch
  - (d) Tripod.

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- (iv) Scar tissue can be loosened by —
- (a) Friction
  - (b) Hacking
  - (c) Picking up.
  - (d) Wringing
- (v) Ballistic Stretching is —
- (a) High speed and low intensity stretch.
  - (b) Low speed and high intensity stretch
  - (c) High speed and high intensity stretch
  - (d) Low speed and low intensity stretch
- (vi) Which of the following is not true about Frenkel's exercise :
- (a) It is used to treat incoordinance
  - (b) It consists of attention, concentration, precision and repetition
  - (c) Progression of each exercise is done with alteration of speed, range and position

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~~(d)~~ Exercise must be done many times until it becomes easy and perfect.

(vii) Site of muscle girth measurement in normal humans are all except —

- (a) Biceps Brachii
- (b) Triceps
- (c) Quadriceps femoris
- (d) Quadratus plantae

(viii) To reeducate a Grade I muscle start with—

- (a) Passive exercise
- (b) Active assisted exercise
- (c) Active resisted exercise
- (d) Active assisted resisted exercise

(ix) Center of Bouyancy in human standing vertically inside the water is situated in —

- (a) S<sub>2</sub> vertebra
- (b) Sternum

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(c) T<sub>12</sub> vertebra

(d) Pubic Symphysis

(x) Relaxation technique designed to obtain muscle lengthening whose action is antagonist to the movement limited in range is known as —

- (a) Rhythmic Stabilisation
- (b) Slow reversal
- (c) Hold and relax
- (d) Rhythmic Initiation.

(xi) Free exercises are used for —

- (a) Strengthening
- (b) Relaxation
- (c) Psychotherapy
- (d) None.

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(xii) In MMI trace indicates

- (a) Grade 0
- (b) Grade 1
- (c) Grade 2<sup>+</sup>
- (d) Grade 2<sup>-</sup>

(xiii) Axillary pad is kept \_\_\_\_\_ cm below axilla

- (a) 5 cm
- (b) 10 cm
- (c) 15 cm
- (d) None.

(xiv) Gravity dependent goniometer is also known as —

- (a) Inclinator
- (b) Fluid goniometer
- (c) Pendulum goniometer
- (d) Universal goniometer.

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(xv) All is true about relaxation except —

- (a) Consciousness of breathing is taught
- (b) Good support to the part is given
- (c) Restful atmosphere is needed
- (d) Patients concentration is diverted from treatment area.

(xvi) Fick Equation is —

- (a)  $VO_2 = Q \times a + \bar{v}O_2$
- (b)  $VO_2 = Q \times a \times \bar{v}O_2$
- (c)  $VO_2 = Q \times a - \bar{v}O_2$
- (d)  $VO_2 = Q \times a \div \bar{v}O_2$

(xvii) For 3 point crutch walking all are true except —

- (a) Shoulder adductor strengthening required
- (b) Unaffected leg hip abductors, extensors strengthening done

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- (c) Mobility of affected leg is required
- (d) Hand grip strengthening done.

(xviii) Grade 3 MMT of adductors is done in—

- (a) Supine lying
- (b) Side lying with test limb up
- (c) Prone lying
- (d) Side lying with test limb down.

(xix) Deconditioning effect of Bed Rest includes—

- (a) Decrease exercise tolerance
- (b) Decrease cardiovascular function
- (c) Increase muscle mass
- (d) Increase dependency

(xx) Contraindications of ROM exercise are all except —

- (a) ROM exercise should not be done when patient's condition is life threatening.

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- (b) Tumors within the joint
- (c) Signs of venous congestion
- (d) All the above.