



BCM-9007
Second Year B. P. T. Examination
January – 2016
Electrotherapy - I

Time : 3 Hours]

[Total Marks : 100

Instructions :

- (1) Write both sections in separate answer sheet.
- (2) Draw appropriate and necessary diagram.

SECTION-I

- I LONG ESSAY : (ANY TWO) 20
- (1) Discuss in detail about production of ultrasound with its effect.
 - (2) What is the principle of cryotherapy? Give its indications with precautions.
 - (3) Application of UVR with theraktin tunnel, kromayer lamp.
- II SHORT ESSAY : (ANY TWO) 10
- (1) Test dose
 - (2) Near field and far field
 - (3) Paraffin wax bath application
- III SHORT ANSWER : (ANY FIVE) 10
- (1) Piezo electric effect
 - (2) Attenuation of ultrasound
 - (3) PUVA
 - (4) Scalds
 - (5) Types of skin
 - (6) Inverse square law
- IV MULTIPLE CHOICE QUESTIONS : 10
- (1) Spasticity is the pathological state because of
 - (a) injury to muscle
 - (b) upper motor neuron lesion
 - (c) lower motor neuron lesion
 - (d) none of the above

- (2) In immersion technique of cryotherapy proportion of water and ice is
- (a) 30:70 (b) 50:50
(c) 10:90 (d) 0:100
- (3) E1 dose is given
- (a) in order to improve healing
(b) for testing
(c) to improve circulation
(d) all of the above
- (4) The depth of penetration for MWD is approximately
- (a) 3 cm (b) 8 cm
(c) 6-7cm (d) 1cm
- (5) The temperature for moist pack cabinet of water ranges between
- (a) 90°C-100°C (b) 50°C-60°C
(c) 100°C (d) 75°C-80°C
- (6) The effect of SWD on inflammation is
- (a) dilatation of arteriole and capillaries
(b) exudation of fluid
(c) reduce healing time
(d) removal of waste product
- (7) Overdose of SWD treatment may cause
- (a) no response
(b) increase in symptom
(c) damage to machine
(d) all of the above
- (8) Van't Hoff's law state that
- (a) increase in blood supply due to removal of waste product
(b) heating on nerve cause sedative effect
(c) chemical changes take place due to rise in temperature
(d) none of the above

- (9) In order to produce high frequency current
 - (a) current should be high enough
 - (b) suitable method of application is chosen
 - (c) condenser must be made to charge and discharge
 - (d) none of the above
- (10) The reflection of ultrasound wave from bone produce heating effect leading to
 - (a) vasodilatation
 - (b) erythema
 - (c) swelling
 - (d) periosteal pain

SECTION - II

- V LONG ESSAY (ANY TWO) 20
- (1) Write in detail about properties of LASER. Explain mechanism of action of LASER in wound healing.
 - (2) Write in detail about types of heating. Give the effect of various types of heating.
 - (3) Explain in detail about types of Infra red ray generator. Give its indication for treatment.
- VI SHORT ESSAY (ANY TWO) 10
- (1) Magnetron valve
 - (2) He-Ne LASER and its effect
 - (3) Contrast bath
- VII SHORT ANSWER (ANY FIVE) 10
- (1) Inductothermy
 - (2) Spacing in SWD
 - (3) Thermo regulations
 - (4) Moist heat
 - (5) Di pole rotation
 - (6) Types of probe in LASER treatment
- VIII MULTIPLE CHOICE QUESTIONS 10
- (1) Excitatory cold can be used
 - (a) when muscles are inhibited post operatively
 - (b) regeneration of mixed peripheral nerve
 - (c) both (a) and (b)
 - (d) none of the above

- (2) Cryotherapy is contra indicated in
- (a) spasticity (b) swelling
(c) vasospastic disease (d) pyrexia
- (3) The synonym for phonophoresis is
- (a) sonophoresis (b) ultra sonophoresis
(c) both (a) and (b) (d) none of the above
- (4) The usual method of testing thermal sensitivity by
- (a) applying ice filled in test tube
(b) applying cold water filled in test tube
(c) applying hot wate filled in test tube
(d) applying warm and cold water filled in test tube
- (5) At rest most of the body heat produced in
- (a) leg and hand (b) muscle
(c) joints (d) brain and trunk
- (6) For therapeutic point of view the local temperature changes that can normally increased
- (a) 2°c to 3°c (b) 8°c to 9°c
(c) 1°c (d) 5°c to 6°c
- (7) Example for superficial heating
- (a) hot water bottle (b) hot packs
(c) hydrocollator (d) all of the above
- (8) The amount of reflection depend on
- (a) angle of incidence
(b) the angle of the incident radiation
(c) both, (a) and (b)
(d) none of the above
- (9) The 915mhz frequency of microwave associated with wavelength (cm)
- (a) 10.2cm (b) 20.4cm
(c) 32.8cm (d) 41.5cm
- (10) The power of IR rays source can broadly described as
- (a) small lamps (b) large non luminous
(c) large luminous (d) all of the above