



J-9007

Seat No. _____

Second Year B. Physiotherapy Examination

July – 2019

Electrotherapy - I

Time : 3 Hours]

[Total Marks : 100

- Instructions :** (1) Write to the point.
(2) Draw appropriate diagram where necessary.
(3) Figures on right side indicate marks.
(4) Write both sections separately.

SECTION - I

- 1 Long essay : (Any Two) 2×10=20**
(a) Describe in detail about production of SWD, uses, effects, dangers and contradictions.
(b) Describe in detail about UVR, production, uses, effects, dangers and contradictions.
(c) Describe in detail about laser, production, uses, effects, dangers and contradictions.
- 2 Short essay : (Any Two) 2×5=10**
(a) Luminous and non-luminous IRR
(b) Composition of paraffin wax bath
(c) Electromagnetic spectrum.
- 3 Write in short : (Any Five) 5×2=10**
(a) Inverse square law
(b) Cryostretch
(c) Coupling media
(d) Grother's law
(e) Erythema
(f) Standing waves.

4 Multiple choice question :

10×1=10

- (1) In paraffin wax bath heat transfer occurs by
 - (A) radiation
 - (B) emmision
 - (C) both (A) and (B)
 - (D) none of above
- (2) Contrast bath treatment also known as
 - (A) hot-hot immersion
 - (B) cold-cold immersion
 - (C) hot-cold immersion
 - (D) none of above
- (3) Which of following statement is true for treatment of acute injuries
 - (A) heat and cold both can be applied immediately
 - (B) only cold can be applied immediately
 - (C) both of above
 - (D) none of above
- (4) Which of the following is incorrect for cryotherapy
 - (A) it decreases spasticity
 - (B) it decreases spasm
 - (C) none of above
 - (D) both of above
- (5) _____ is most commonly used cryotherapy in treatment of sport injuries.
 - (A) Cold immersion
 - (B) Ice cube massage
 - (C) Vapocoolant spray
 - (D) All of above
- (6) The frequency used for medical purpose of swd is
 - (A) 11 meters
 - (B) 27.11 meters
 - (C) 27.12mhz
 - (D) 27.11 mhz
- (7) A device that measures electrical resistance is called
 - (A) ohmmeter
 - (B) potentiometer
 - (C) voltmeter
 - (D) all of above
- (8) Laser beam is characterized by
 - (A) monochromicity
 - (B) collimation
 - (C) coherence
 - (D) all of above
- (9) E2 dose is
 - (A) half of E1
 - (B) 10 times E1
 - (C) 50 times E1
 - (D) None of above
- (10) The unit of capacitance is
 - (A) henry
 - (B) ohms
 - (C) farad
 - (D) joules

SECTION - II

- 1 Long essay : (Any Two) **2×10=20**
- (a) Physiological and therapeutic effects of cooling
 - (b) Physiological and therapeutic effects of heating
 - (c) Non thermal effects of ultrasound-physiological and therapeutic.
- 2 Short essay : (Any Two) **2×5=10**
- (a) Contrast bath
 - (b) Methods of application of wax bath
 - (c) Principles of hydrotherapy and forces acting on it.
- 3 Write in short : (Any Five) **5×2=10**
- (a) Cosine law
 - (b) Piezo electric effect
 - (c) Hydrocollator packs
 - (d) Peme
 - (e) Indications of pulsed swd
 - (f) Van hoff's law
- 4 Multiple choice questions : **10×1=10**
- (1) Laser is an acronym for
 - (A) Light amplification by stimulated emission of radiation
 - (B) Light amplification by spontaneous emission of radiation
 - (C) Both (A) and (B)
 - (D) None of above
 - (2) The superficial heating agent are _____
 - (A) hot packs (B) contrast bath
 - (C) wax bath (D) all of above

- (3) Recent injuries are indication of
- (A) Infrared radiations
 - (B) Ultraviolet radiations
 - (C) Shortwave diathermy
 - (D) Cryotherapy
- (4) Microwaves are electromagnetic waves that lies between
- (A) radiowaves and uvr
 - (B) uvr and irr
 - (C) radiowaves and irr
 - (D) none of above
- (5) A part of brain responsible for thermal regulation
- (A) thalamus
 - (B) hypothalamus
 - (C) cerebrum
 - (D) cerebellum
- (6) Test dose of uvr can be done on
- (A) flexor aspect of forearm
 - (B) medial aspect of thigh
 - (C) both of above
 - (D) none of above
- (7) When ultrasound is applied in pulsed mode the ratio of time on to time off
- (A) mark:pulse ratio
 - (B) mark:space ratio
 - (C) space:mark ratio
 - (D) space:pulse ratio
- (8) Which of the following is a method of cryotherapy
- (A) ice packs
 - (B) ice towels
 - (C) ice cubes
 - (D) all of above
- (9) Cross fire method is used in
- (A) shortwave diathermy
 - (B) uvr
 - (C) ultrasound
 - (D) none of above
- (10) Radiations produced by laser are used in
- (A) Optical disk drivers
 - (B) Barcode scanners
 - (C) Both of above
 - (D) None of above