



**NF-02011153**

Seat No. \_\_\_\_\_

**First Year B. P. T. Examination**

**January – 2017**

**Fundamentals of Electrotherapy**

Time : 2 Hours]

[Total Marks : 50

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

- 1 Long essays (2 out of 3) 20
  1. Describe in details about Capacitor. Add special note on grouping of capacitor.
  2. Describe in details about Electromagnetic spectrum. Add special note on its uses.
  3. Describe in details about Magnetism. Add special note on characteristics of magnetic lines of force.
  
- 2 Short essays : (2 out of 3) 10
  1. Pathway for pain
  2. Pain gait theory
  3. Prevention of electric shock
  
- 3 Very short essays : (5 out of 6) 10
  1. Switch
  2. Plug
  3. Fuse
  4. Ohm's law
  5. Referred pain
  6. Factors affecting pain.

4 Multiple Choice Questions :

10

1. Following rays are used for treatment of skin conditions
  - a) Gamma rays
  - b) Infra red rays
  - c) Ultra violet rays
  - d) X-rays
2. If rays strike at  $60^\circ$  with the surface amount of rays absorbed is...
  - a) 100%
  - b) 86.6%
  - c) 50%
  - d) 25%
3. Slow pain is carried by
  - a) alpha fibers
  - b) beta fibers
  - c) gamma fibers
  - d) All of above
4. To store charge following instrument is used
  - a) Transformer
  - b) Capacitor
  - c) Magnet
  - d) Battery
5. Neurotransmitter responsible for pain is
  - a) Substance A
  - b) Substance P
  - c) Substance Y
  - d) None of above
6. Triboelectric effect is example of
  - a) Static electricity
  - b) Dynamic electricity
  - c) Both of above
  - d) None of above
7. Following is sign of potential difference
  - a) P
  - b) V
  - c) W
  - d) C
8. Unit of wavelength is
  - a) Hertz
  - b) Meter
  - c) Second
  - d) None of above

9. To increase voltage, following transformer is used
- a) Step up transformer
  - b) Step down transformer
  - c) Both of above
  - d) None of above
10. If current passes form human body when person is in contact with earth, it is known as...
- a) Earth shock
  - b) Human shock
  - c) Lightening shock
  - d) None of above
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