

B.P.T.[1st Prof.]

BF/2023/10

Anatomy**[NEW REGULATIONS w.e.f. Admission 2021]****Time: 3 Hours****Max Marks: 80**

- Note:** 1.) *Attempt all questions.*
2.) **ATTEMPT BOTH PARTS IN SINGLE ANSWER BOOK ONLY.**
3.) **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/ PROVIDED**
4.) **The Student must write Q.P. Code in the space provided on the Title page of the Answer Book.**

SECTION - A**[40 Marks]**

1. **Write short Notes on:** [5x3=15]
(a) Fibrous cartilage (b) Vagus nerve
(c) Larynx (d) Deltoid muscle
(e) Ear Ossicles
2. **Answer the following question.** [10]
Describe Heart for its borders, surface arterial supply and Nerve supply.
3. **Attempt any ONE question out of the following two questions.** [15]
(a) Describe cerebellum, it's border, surfaces, nuclei and blood supply.
- OR
- (b) Describe boundaries and content of the Axilla.

SECTION – B**[40 Marks]**

4. **Write short Notes on:** [5x3=15]
(a) Inferior colliculi
(b) vertebral artery
(c) Primary cartilaginous joint
(d) Popliteus
(e) Deep peroneal nerve
5. **Answer the following question.** [10]
Describe Hip Joint for its attachments, movements and muscles producing those movements.
6. **Attempt any ONE question out of the following two questions.** [15]
(a) Describe Kidney along with borders, surfaces and blood supply.
- OR**
- (b) Describe Male gonad in detail.
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Physiology**[NEW REGULATIONS w.e.f. Admission 2021]****Time: 3 Hours****Max Marks: 80**

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SECTION - A**[40 Marks]****1. Write short Notes on :****[5x3=15]**

- | | |
|---|------------------------------|
| (a) Fatigue in neuromuscular transmission | (b) Hypothermia |
| (c) Prothrombin activator | (d) Functions of haemoglobin |
| (e) Positive feedback mechanism for Homeostasis | |

2. Answer the following question.**[10]**

Discuss ventilation and perfusion in the different parts of the Lungs. How ventilation and perfusion changes during exercise ?

3. Attempt any ONE question out of the following two questions.**[15]**

- (a) Describe Synapse and properties of synaptic transmission.
OR
(b) Describe Neuromuscular and Vascular adaptation during endurance training.

SECTION – B**[40 Marks]****4. Write short Notes.****[5x3=15]**

- (a) Gating of pain
(b) Acromegaly
(c) Functions of testosterone
(d) Length- tension relationship of skeletal muscle
(e) Normal ECG

5. Answer the following question.**[10]**

Discuss the role of different Hormones in the regulation of Ca^{++} concentration.

6. Attempt any ONE question out of the following two questions.**[15]**

- (a) Describe structure, connections and functions of Basal ganglia. Mention the disorders of movement due to diseases of basal ganglia.

OR

- (b) Describe structure and functions of Muscle spindle and Golgi tendon organ. How they help in maintenance of muscle tone? What happens to muscle tone in upper motor neuron lesion.

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Biochemistry**[NEW REGULATIONS w.e.f. Admission 2021]****Time: 3 Hours****Max Marks: 80**

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4.) **The Student must write Q.P. Code in the space provided on the Title page of the Answer Book.**

SECTION - A**[40 Marks]****1. Answer the following:****[5x3=15]**

- (a) Oxidative Phosphorylation
- (b) Write short note on functions of collagen.
- (c) Structure of DNA and Chargaff's Rule
- (d) Write the difference between prokaryotic and Eukaryotic cell with the help of labelled diagrams.
- (e) Write short note on Osmolality of Plasma

2. Answer the following question.**[5+5= 10]**

What are Polysaccharides and describe the structure and functions of three homopolysaccharides.

3. Attempt any ONE question out of the following two questions.**[15]**

- (a) Briefly describe the sources, biochemical functions and deficiency manifestations of Vitamin K. **[2+10+3= 15]**

OR

- (b) What are Enzymes. Write their classification and add a note on mechanism of enzyme action. **[2+5+8= 15]**

SECTION – B**[40 Marks]****4. Write short Notes.****[5x3=15]**

- (a) Metabolic acidosis
- (b) Albinism
- (c) Beneficial effects of Dietary Fiber
- (d) Biochemical functions of thyroid hormones
- (e) Essential amino acids

5. Answer the following question.**[2+5+3= 10]**

What are Ketone bodies. Write the steps of synthesis of ketone bodies and explain the causes of overproduction of ketone bodies

6. Attempt any ONE question out of the following two questions.**[15]**

- (a) Define Glycogenesis. Write the steps of Glycogenesis and add a note on its regulation. **[2+10+3= 15]**

OR

- (b) Describe briefly urea cycle and its inhibitors. **[12+3= 15]**

Electrotherapy-I**[NEW REGULATIONS w.e.f. Admission 2021]****Time: 3 Hours****Max Marks: 80**

- Note:** 1.) *Attempt all questions.*
 2.) **ATTEMPT BOTH PARTS IN SINGLE ANSWER BOOK ONLY.**
 3.) **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/ PROVIDED**
 4.) **The Student must write Q.P. Code in the space provided on the Title page of the Answer Book.**

SECTION - A**[40 Marks]**

1. **All questions are compulsory. Write Notes on :** [5x3=15]
 (a) Properties of water
 (b) Define Surface tension
 (c) Structure of Atom
 (d) Choke Coil
 (e) Short note on display devices
2. **Answer the following question.** [10]
 Define Joule's law. Write mechanism of Heat production.
3. **Attempt any ONE question out of the following two questions.** [15]
 (a) Write in detail about Short circuits and related dangers associated with it.
 OR
 (b) Explain production of interrupted & surged current. Write in detail about its effect.

SECTION - B**[40 Marks]**

4. **All questions are compulsory. Write short Notes** [5x3=15]
 (a) Precautions of Moist heat
 (b) Write operational skills of use of UVR
 (c) Pulse ration
 (d) Write about resting and action potential of Nerve and Muscle tissue
 (e) Techniques of Irradiation of IRR
5. **Answer the following question.** [10]
 Write in detail about types of IRR along with its physiological effects and precautions used during usage of equipment.
6. **Attempt any ONE question out of the following two questions.** [15]
 (a) Explain about types of lesion in electrical reactions and write about development of reaction of degeneration.
 OR
 (b) Explain superficial heating modalities under the headings of :
 • Mechanism of heat production
 • Therapeutic effects
 • Indications

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Exercise Therapy – I**[NEW REGULATIONS w.e.f. Admission 2021]****Time: 3 Hours****Max Marks: 80**

- Note:**
- 1.) *Attempt all questions.*
 - 2.) **ATTEMPT BOTH PARTS IN SINGLE ANSWER BOOK ONLY.**
 - 3.) **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/ PROVIDED**
 - 4.) **The Student must write Q.P. Code in the space provided on the Title page of the Answer Book.**

SECTION - A**[40 Marks]**

1. **All questions are compulsory.** [5x3=15]
 - (a) DeLorme's Shoe/Boot
 - (b) Relate COG, BOS & Stability
 - (c) Single and Double Pulley System
 - (d) Isometric muscle contraction
 - (e) Significance of Goniometry
2. **Answer the following question.** [10]

Define Suspension therapy. Discuss the technique of strengthening the hip abductors using the suspension therapy.
3. **Attempt any ONE question out of the following two questions.** [15]
 - (a) Describe in detail the principles and technique of manually grading the strength of quadriceps muscle along with possible substitutions while grading the same.

OR

 - (b) Define Progressive Resistive Exercises (PRE). Describe the various techniques, principles, indications, contra-indications, effects and uses of resisted movements.

SECTION – B**[40 Marks]**

4. **All questions are compulsory.** [5x3=15]
 - (a) Effects of stroking
 - (b) Contract- relax technique
 - (c) Dynamic stability
 - (d) Random Vs. Blocked practice schedule
 - (e) Uses of medicine ball/ Swiss ball in therapeutic gymnasium
5. **Answer the following question.** [10]

Describe the various factors contributing to the muscle fatigue and the role of the relaxation techniques in its management.
6. **Attempt any ONE question out of the following two questions.** [15]
 - (a) Discuss in detail the physiological effects of soft tissue manipulation on lymphatic and neuromuscular systems. Classify and describe the Petrissage technique of soft tissue manipulation.

OR

 - (b) Define and discuss the motor control and the interacting elements responsible for its emergence. Elaborate on the system theory of motor control in detail.

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English**[NEW REGULATIONS w.e.f. Admission 2021]****Time: 1 ½ Hours****Max Marks: 40****Note: 1.) *Attempt all questions.*****2.) ATTEMPT ALL QUESTIONS IN SINGLE ANSWER BOOK ONLY.****3.) NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/ PROVIDED****4.) The Student must write Q.P. Code in the space provided on the Title page of the Answer Book.****1. a. Correct the following sentences: [5]**

- i. The hotel were very quiet.
- ii. We tried to keep quiet because the baby sleeping.
- iii. It was peaceful and the birds were sing.
- iv. The festival is for to take place in June.
- v. The gates were made of an iron.

b. Fill in the blanks with correct form from the words given in brackets: [5]

- i. Each team _____ a different colour. (wear)
- ii. Someone _____ spilt the milk. (has)
- iii. My train _____ in fifteen minutes. (leave)
- iv. We _____ the holiday very much in June.(enjoy)
- v. I have _____ the sandwiches.(make)

2. Read the passage given below and make notes using suitable short forms: [10]

Although speech is the most advanced form of communication, there are many ways of communicating without using speech. Signals, signs, symbols and gestures may be found in every known culture. The basic function of a signal is to attract the attention, as for example the dots and dashes of a telegraph circuit. Coded to refer to speech, the potential for communication is great. Less adaptable to the codification of words, signs also contain meaning in and of themselves. A stop sign or a barber pole conveys meaning quickly and conveniently. Symbols are more difficult to describe than either signals or signs because of their intricate relationship with the receiver's cultural perceptions.

3. Write a letter to your friend who has recently lost his father in an accident. [10]**4. Write an essay of about 100 words on any one of the following topics: [10]**

- | | |
|----------------------------|----------------------------------|
| a. Female Foeticide | b. Physiotherapy as a Profession |
| c. COVID- 19 as a Pandemic | d. Online Education |

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Pathology

[NEW REGULATIONS w.e.f. Admission 2021]

Time: 3 Hours

Max Marks: 80

Note: 1.) *Attempt all questions.*

2.) **ATTEMPT BOTH PARTS IN SINGLE ANSWER BOOK ONLY.**

3.) **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/ PROVIDED**

4.) **The Student must write O.P. Code in the space provided on the Title page of the respective Answer Book.**

SECTION - A

[40 Marks]

1. **Write short Notes.**

[5x3=15]

- (a) Primary tuberculosis
- (b) Stages of shock
- (c) Differentiate between necrosis and apoptosis
- (d) Pathogenesis of asthma
- (e) Infective endocarditis

2. **Answer the following question.**

[10]

Define inflammation. Describe in detail vascular and cellular events in acute inflammation.

3. **Attempt any ONE question out of the following two questions.**

[15]

- (a) Etiopathogenesis of thrombus formation, its fate and effects.

OR

- (b) Discuss various congenital myopathies.

SECTION – B

[40 Marks]

4. **Write short Notes.**

[5x3=15]

- (a) Factors affecting wound healing
- (b) Rickets
- (c) Differentiate between tuberculoid and lepromatous leprosy
- (d) Hemophilia
- (e) Pyogenic meningitis

5. **Answer the following question.**

[10]

Discuss in detail risk factors and pathogenesis of atherosclerosis.

6. **Attempt any ONE question out of the following two questions.**

[15]

- (a) Discuss rheumatic fever, its diagnostic criterion and morphological changes seen in heart.

OR

- (b) Enumerate various inflammatory lesions involving joints and describe gout in detail.

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Microbiology**[NEW REGULATIONS w.e.f. Admission 2021]****Time: 3 Hours****Max Marks: 80****Note: 1.) *Attempt all questions.*****2.) ATTEMPT BOTH PARTS IN SINGLE ANSWER BOOK ONLY.****3.) NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/ PROVIDED****4.) The Student must write O.P. Code in the space provided on the Title page of the respective Answer Book.****SECTION - A****[40 Marks]****1. *Write short Notes.*****[5x3=15]**

- (a) Draw the structure of a bacterial cell
- (b) Light microscope
- (c) Bacterial growth curve
- (d) Arrangement of flagella
- (e) Steps of gram staining

2. Answer the following question.**[10]**

Describe various methods of Sterilization and Disinfection.

3. Attempt any ONE question out of the following two questions.**[15]**

- (a) Discuss difference between Prokaryotes and Eukaryotes with diagram.

OR

- (b) Write on Hospital acquired infections.

SECTION – B**[40 Marks]****4. *Write short Notes.*****[5x3=15]**

- (a) Rabies Vaccine
- (b) Innate immunity
- (c) Etiology of AIDS
- (d) Precipitation reaction
- (e) Opportunistic organisms

5. Answer the following question.**[10]**

Write on etiology and lab diagnosis of TB.

6. Attempt any ONE question out of the following two questions.**[15]**

- (a) Describe in detail organisms causing Food poisoning and diagnosis.

OR

- (b) Describe in detail Subcutaneous mycoses.

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Pharmacology**[NEW REGULATIONS w.e.f. Admission 2021]****Time: 3 Hours****Max Marks: 80**

- Note: 1.) **Attempt all questions.**
2.) **ATTEMPT ALL QUESTIONS IN SINGLE ANSWER BOOK ONLY.**
3.) **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/ PROVIDED**
4.) **The Student must write Q.P. Code in the space provided on the Title page of the Answer Book.**
5.) **Illustrate answer with suitable schematic diagrams.**

SECTION - A**[40 Marks]**

1. **Write short Notes.** [5x3=15]
a. Oral route of drug administration
b. Define receptors. What are the various types of receptors?
c. Enumerate adverse drug reactions of fluoroquinolones.
d. Pharmacological treatment of mild to moderate hypertension
e. Vitamin K as therapeutic agent
2. **Answer the following question.** [10]
Enumerate antiepileptic drugs. Write mechanism of action, therapeutic uses & adverse effects of Phenytoin.
3. **Attempt any ONE question out of the following two questions.** [15]
a. Classify Non-Steroidal anti-inflammatory drugs. Write uses, adverse effects & precautions for the use of Aspirin.
OR
b. Classify antidiabetic drugs. Write mechanism of action, uses & adverse effects of Metformin.

SECTION - B**[40 Marks]**

4. **Write short Notes.** [5x3=15]
a. Lignocaine
b. Drug antagonism
c. Amoxycillin
d. Drug treatment of cough
e. Hydrochlorothiazide
5. **Answer the following question.** [10]
Enumerate antitubercular drugs. Write mechanism of action, therapeutic uses & adverse effects of Rifampicin.
6. **Attempt any ONE question out of the following two questions.** [15]
a. Classify anti-anginal drugs. Write uses, adverse effects & precautions for the use of Nitrates.
OR
b. Classify Penicillins. Write mechanism of action, uses & adverse effects of Benzyl Penicillin.
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Electro Therapy – II**[NEW REGULATIONS w.e.f. Admission 2021]****Time: 3 Hours****Max Marks: 80**

- Note:** 1.) *Attempt all questions.*
2.) **ATTEMPT BOTH PARTS IN SINGLE ANSWER BOOK ONLY.**
3.) **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/ PROVIDED**
4.) **The Student must write Q.P. Code in the space provided on the Title page of the Answer Book.**

SECTION - A**[40 Marks]**

1. **Write short Notes.** [5x3=15]
a. Define Action Potential
b. Galvanic stimulation
c. Refraction of sounds
d. Ohm's Law
e. Aquastic Streaming
2. **Answer the following question.** [5+5= 10]
i) Mechanical effects of US on tissues. ii) Contraindications of Cryotherapy.
3. **Attempt any ONE question out of the following two questions.** [15]
a. Write an essay on production of SWD.
OR
b. Write an essay on physiological effects of Interferential Therapy.

SECTION – B**[40 Marks]**

4. **Write short Notes.** [5x3=15]
a. Define Lewis Hunting reaction.
b. What is Long duration Interrupted Direct current.
c. What is electrical impedance?
d. ENG
e. Cryotherapy
5. **Answer the following question.** [5+5= 10]
i) Write the production of Therapeutic LASER used in Physiotherapy.
ii) Use of the EMG in Electrodiagnosis.
6. **Attempt any ONE question out of the following two questions.** [15]
a. Explain the Biophysical effects of LASER?
OR
b. Write an essay on physiological effects of Cryotherapy.

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Exercise Therapy – II**[NEW REGULATIONS w.e.f. Admission 2021]****Time: 3 Hours****Max Marks: 80**

- Note:** 1.) *Attempt all questions.*
2.) **ATTEMPT BOTH PARTS IN SINGLE ANSWER BOOK ONLY.**
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4.) **The Student must write Q.P. Code in the space provided on the Title page of the Answer Book.**

SECTION - A**[40 Marks]**

1. **All questions are compulsory.** [5x3=15]
a. Lordosis
b. Phases of gait cycle
c. Principles of traction
d. General techniques of strengthening
e. Crutches
2. **Answer the following question.** [10]
Describe the principles of proprioceptive neuromuscular facilitation.
3. **Attempt any ONE question out of the following two questions.** [15]
a. Define posture. Explain abnormal posture and their management.
OR
b. Discuss fluid mechanics. Explain the physiological and therapeutic effects of hydrotherapy.

SECTION – B**[40 Marks]**

4. **All questions are compulsory.** [5x3=15]
a. Anaerobic exercise
b. Aetiogenesis of joint stiffness
c. Indications of walking aids
d. Group therapy
e. Equipments of hydrotherapy
5. **Answer the following question.** [10]
Describe the grades of mobilisation given by Maitland. Also write Indications and contraindications of mobilization techniques.
6. **Attempt any ONE question out of the following two questions.** [15]
a. Describe neuromuscular coordination, factors controlling coordination and test to check for incoordination.
OR
b. What is Yoga therapy? Discuss the role of yoga in relaxation.

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Biomechanics & Kinesiology**[NEW REGULATIONS w.e.f. Admission 2021]****Time: 3 Hours****Max Marks: 80**

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SECTION - A**[40 Marks]**

1. ***All questions are compulsory.*** [5x3=15]
(a) Newton's first law of motion
(b) Parallel force system
(c) Isotonic contraction
(d) Cartilaginous Joint
(e) Friction
2. **Answer the following question.** [10]
Write classification of muscles.
3. **Attempt any ONE question out of the following two questions.** [15]
(a) Describe biomechanics of Wrist joint.
- OR**
- (b) Describe gait and common factors affecting it.

SECTION – B**[40 Marks]**

4. ***All questions are compulsory.*** [5x3=15]
(a) Unstable equilibrium
(b) Muscle Work
(c) Cartilaginous tissue
(d) Kinematics
(e) Torque
5. **Answer the following question.** [10]
Describe co-ordinated movement.
6. **Attempt any ONE question out of the following two questions.** [15]
(a) Describe factors responsible for postural imbalance.
- OR**
- (b) Describe biomechanics of ankle joint.
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Sociology & Psychology

[NEW REGULATIONS w.e.f. Admission 2021]

Time: 3 Hours

Max Marks: 80

Note: 1.) *Attempt all questions.*

2.) **USE SEPARATE ANSWER BOOK FOR EACH PART.**

3.) *The Student must write Q.P. Code in the space provided on the Title page of the respective Answer Book.*

SECTION - A

[40 Marks]

QP Code: BPT207

[Sociology]

1. **Write short Notes.**

[5x3=15]

- (a) How does culture influence social awareness and health perceptions?
- (b) How do primary groups aid in rehabilitation? Provide examples.
- (c) Do home remedies effectively control morbidity? Elaborate with examples.
- (d) Examine how caste plays a role in unequal access to healthcare.
- (e) How does the family serve as an instrument of socialization? Discuss.

2. **Answer the following question.**

[10]

What is deviance? How do norms, values, and folkways influence or regulate it?

3. **Attempt any ONE question out of the following two questions.**

[15]

- (a) What are the primary objectives of the Government of India's recent policy on disability? Illustrate with examples.

OR

- (b) How do medical social workers collaborate with other healthcare professionals in a community? Provide examples.

SECTION - B

[40 Marks]

QP Code: BPT208

[Psychology]

1. **Write short Notes.**

[5x3=15]

- (a) Bhatia's performance test
- (b) Operant conditioning
- (c) Stages of acceptance
- (d) Barriers to good communication
- (e) Principles in counselling

2. **Answer the following question.**

[10]

Define health psychology. Discuss any one model of health psychology?

3. **Attempt any ONE question out of the following two questions.**

[15]

- (a) Define personality. Discuss various methods of personality assessment?

OR

- (b) Define stress. Discuss in detail the effects of stress on behavior, emotion, physiology and cognition?
