

Chapter 2-II: Anatomy and Physiology

Name: _____ Date: _____ Score: _____ / 47 pts

Section A: Cells, Tissues & Body Organization

From cells to body systems | Questions 1–11

Part 1 (Q1–8): Use the WORD BANK to fill in each blank. Each term is used once.

WORD BANK

cell membrane | epithelial | exocrine | metabolism | mitochondria | mitosis | nucleus | protoplasm

1. Cells reproduce through a process of division called _____.
2. The chemical process in which cells are nourished, convert nutrients to energy, and eliminate waste is called _____.
3. The small body at the center of the cell that controls reproduction and metabolism is the _____.
4. The outer boundary of the cell that controls what enters and leaves is the _____.
5. The structure inside the cell that produces energy is called the _____.
6. The living substance that makes up the cell is called _____.
7. Skin is a type of _____ tissue — tissue that lines and protects the surfaces of the body.
8. Oil glands (sebaceous) and sweat glands (sudoriferous) are _____ glands — they release their secretions through ducts to the skin's surface.

Part 2 (Q9–11): Fill in the blank — no word bank.

9. Name the FOUR types of body tissue. For each, write its main function.

Type 1: _____

Function: _____

Type 2: _____

Function: _____

Type 3: _____

Function: _____

Type 4: _____

Function: _____

10. A collection of tissues that form a structure with a specific function is called a(n) _____.

11. Name FIVE accessory organs of the skin:

1. _____
2. _____
3. _____
4. _____
5. _____

Section B: The Skeletal System

Bones, joints & the physical foundation of the body | Questions 12–19

Part 1 (Q12–18): Fill in the blank.

12. The skeletal system is the _____ foundation of the body.

13. Complete the bone counts for the skull:

Cranium bones: _____

Facial bones: _____

Total skull bones: _____

Neck (cervical) bones: _____

14. The bones of the chest form the _____. It is made up of: _____ (_____ pairs), the _____ (breastbone), and the _____ (spine).

Structure name: _____

Component 1 + count: _____

Component 2: _____

Component 3: _____

15. The two bones that form the shoulder are:

Bone 1 (collarbone):

Bone 2 (shoulder blade):

16. The bone that joins the sternum and scapula is the _____.

17. The strongest and largest bone of the face is the _____.

18. List the bones of the arm and hand in order from the shoulder down:

Upper arm: _____

Forearm — inner (little-finger side): _____

Forearm — outer (thumb side): _____

Wrist (8 bones): _____

Palm (5 bones): _____

Fingers: _____

Part 2 (Q19): Matching — write the letter of the correct definition next to each term.

Column A — Match the Number	Column B — Definitions
19a Movable joint	A. Connects muscle to bone
19b Immovable joint	B. Fixed — skull sutures and pelvis cannot move
19c Ligament	C. Connects bone to bone at a joint
19d Tendon	D. Elbow, knee, hip, wrist — can move freely

Section C: The Muscular System

Voluntary, involuntary, regions & massage application | Questions 20–28

Part 1 (Q20–27): Fill in the blank.

WORD BANK

belly | cardiac | insertion | involuntary (nonstriated) | origin | skeletal (striated) | smooth | voluntary (striated)

20. Muscles you can consciously control are called _____ muscles. They are also known as _____ muscles because of their striped appearance under a microscope.

Term 1: _____

Also called: _____

21. Muscles that work automatically (you cannot consciously control them) are called _____.

22. The special involuntary muscle that makes up the heart is called _____ muscle.

23. A skeletal muscle has three parts. Name and describe each:

Part 1 — fixed end, closest to skeleton: _____

Description: _____

Part 2 — middle: _____

Description: _____

Part 3 — movable end, farthest from skeleton: _____

Description: _____

24. Identify the muscle for each facial and neck area:

Scalp (raises eyebrows, causes forehead wrinkles):

Eyebrow (draws brow down, wrinkles forehead vertically):

Eye ring muscle (closes the eye): _____

Nose (lowers eyebrows, wrinkles bridge of nose):

Lips (compresses and wrinkles the lips):

Chewing — muscle 1: _____

Chewing — muscle 2: _____

Neck — back (covers back of neck, shoulders, upper back):

Neck — front (broad muscle from chest to chin, lowers jaw):

25. The muscles that connect the arms to the body are:

1. _____

2. _____

26. The muscles of the shoulder and arm are:

Covers shoulder joint, allows arm to extend outward:

Front of upper arm, flexes elbow, turns palm outward:

Back of upper arm, extends the forearm:

Covers back of neck and upper back, shrugs shoulders:

27. Fill in what each hand/wrist muscle group does:

Extensors: _____

Flexors: _____

Pronators:

Supinators:

Part 2 (Q28): Matching — write the letter of the correct muscle action next to each description.

Column A — Match the Number	Column B — Definitions
28a Draws body part AWAY from the midline (e.g., spreading fingers apart)	A. Abduction
28b Draws body part TOWARD the midline (e.g., closing fingers together)	B. Adduction
28c Bends a body part toward the core of the body (e.g., bicep curl)	C. Flexion
28d Straightens a body part (e.g., extending the wrist flat)	D. Extension
28e Rotates the forearm so the palm faces UPWARD	E. Supination
28f Rotates the forearm so the palm faces DOWNWARD	F. Pronation

Section D: The Nervous System

CNS, PNS, ANS, cranial nerves & esthetic relevance | Questions 29–37

Fill in the blank.

WORD BANK

autonomic (ANS) | axon | brain stem | central (CNS) | dendrites | motor (efferent) | peripheral (PNS) | reflex | sensory (afferent)

29. The three divisions of the nervous system are:

Division 1 — brain, spinal cord, cranial nerves:

Division 2 — connects outer body to CNS, carries impulses to/from CNS:

Division 3 — controls involuntary muscles, glands, blood vessels, heartbeat:

30. Nerves that carry impulses FROM the brain TO the muscles or glands are called _____ nerves.

31. Nerves that carry impulses FROM the sense organs TO the brain are called _____ nerves.

32. In a nerve cell: the _____ sends messages outward; the _____ receive incoming messages.

Sends: _____

Receives: _____

33. An automatic, involuntary nerve reaction to a stimulus is called a(n) _____.

34. The structure that connects the spinal cord to the brain is the _____.

Q35–37: The three cranial nerves most important to estheticians.

35. The 5th cranial nerve is also called the _____ or _____ nerve. It is the chief _____ nerve of the face. It also controls the muscles used for _____.

Other names: _____

Type: _____

Also controls: _____

36. The 7th cranial nerve is also called the _____ nerve. It is the chief _____ nerve of the face. It controls all muscles of _____ and the secretion of _____.

Other name: _____

Type: _____

Controls: _____

Also secretes: _____

37. The 11th cranial nerve is also called the _____ nerve. It controls the motion of the _____ and _____ muscles. It is affected during facials, mainly during _____.

Other name: _____

Controls: _____

Affected during: _____

Section E: Circulatory, Lymphatic & Supporting Systems

Blood, vessels, immunity & digestion | Questions 38–45

Fill in the blank.

38. The cardiovascular system consists of four components:

1. _____

2. _____

- 3. _____
- 4. _____

39. The two forms of circulation are:

Heart → lungs:

Heart → body → back:

40. The main blood supply to the head, face, and neck comes from the common _____ arteries. Blood returns to the heart through the internal and external _____ veins.

Arteries:

Veins: _____

41. Name the four components of blood and the function of each:

1. *Red blood cells (erythrocytes):* _____

Function: _____

2. *White blood cells (leukocytes):* _____

Function: _____

3. *Platelets (thrombocytes):* _____

Function: _____

4. *Plasma:* _____

Function: _____

42. The complex iron protein that gives blood its bright red color is called _____.

43. List THREE functions of the lymphatic/immune system:

1. _____

2. _____

3. _____

44. Secretions produced by the glands and carried through the bloodstream to influence body functions are called _____ (examples: insulin, estrogen, cortisol).

45. List the FIVE steps of digestion in correct order:

Step 1 (eating/taking food in): _____

Step 2 (moving food along tract): _____

Step 3 (breaking down food chemically and mechanically):

Step 4 (moving nutrients into bloodstream):

Step 5 (eliminating solid waste): _____

Section F: Clinical Application

Scenario-based reasoning | Questions 46–47

Read each scenario carefully. Answer in complete sentences. You will be graded on clinical reasoning, not grammar.

CLINICAL SCENARIO

You are performing a facial massage on a client. Your instructor reminds you to always direct pressure from insertion to origin. You are about to massage the client's neck — specifically the platysma (front) and trapezius (back).

46a) Where is the origin of the platysma? Where is its insertion?

Origin: _____

Insertion: _____

46b) When massaging from insertion to origin on the platysma, are you moving upward or downward? Explain why this direction is used in esthetic massage.

CLINICAL SCENARIO

A client arrives for her monthly facial. She tells you she was recently diagnosed with lupus (an autoimmune disease) and is currently experiencing a flare-up. She has visible skin inflammation on her face.

47a) Which body system is directly involved in lupus? Why does this matter to an esthetician?

System: _____

Relevance: _____

47b) Should you proceed with the facial? What is the correct professional response?

