ANSWERS TO THE ANATOMY MARATHONS REVIEW OF HEAD NECK, THORAX, AND ABDOMEN SENT ON 4TH JULY 2017

A: Instructions

1. Each slide represents 1 question on the question paper
2. A slide will stay on for 1 minute then change automatically
3. You cannot go back to a previous slide
4. There are 25 questions
5. Each question is 4 marks

B: Questions

1. (a) Identify the vertebra shown

   Cervical

   (b) Name the type of joint formed at the part labeled 1

   Symphysis

   (c) Name two parasympathetic ganglia in the head region and indicate their corresponding cranial nerve

   Pterigopalatine – CN VII

   Submandibular – CN VII

   Cilliary – CN III

   Otic – CN IX

2. (a) State the source of cutaneous innervation to the parts labeled A and D

   A – Maxillary nerve

D – Cervical plexus

(b) Give two reasons why scalp wounds bleed profusely

Rich supply

Vessels remain patent due to the pull of dense connective tissue layer of scalp on the adventitia of the blood vessels

3. (a) Name main structures that traverse the foramen probed in A

- **Internal acoustic meatus**

CN VII

CN VIII

(b) What is the most probable basis of motor aphasia following fractures of Z?

- **Pterion**

Injury to the middle meningeal artery → extradural hematoma → pressure effect to Broca's area

4. (a) Name the structures attached to the parts labeled X and Y

Medial pterigoid muscle

Temporalis muscle

(b) Name the branches of the nerve through Q

- **Mandibular foramen → Inferior alveolar nerve**

Mental nerve

Incisive branches

5. (a) Name the foramen probed

Sphenoethmoidal recess

(b) State the motor innervation of M

- **Soft palate**

Pharyngeal plexus

Mandibular nerve

(c) Mention one clinical relevance of N

- **Pharyngeal tonsils**

Adenoids

6. (a) Mention two sources of blood supply to R

- **Palatine tonsils**

Tonsillar artery from facial

Ascending pharyngeal

Ascending palatine branch of the facial

Dorsal lingual branches of the lingual artery

Greater palatine branch of the maxillary artery

(b) Identify the structure labeled X

Salpingopharyneous

(c) Give one clinical relevance of the space through Y

- **Pharyngotympanic tube**

Otitis media

7. (a) Name two terminal branches of the structure pointed with the probe

- **Internal carotid artery**

Middle cerebral

Anterior cerebral

(b) Mention the brain stem nuclei which associated with G

- **Vagus nerve**

Dorsal Vagal Nucleus

Nucleus ambigus

Nucleus of the solitary tract

8. (a) State the main actions of A

- **Sternocleidomastoid**

Neck flexion

Rotation

(b) Give the innervation of B

- **Anterior belly of digastric muscle**

Nerve to myelohyoid

(c) Describe the surface landmark of the internal jugular vein

Strenal head of sternocleidomastoid – mastoid process

9. (a) Identify the structures labeled X and Y

X – Parotid duct

Y – Phrenic nerve

(b) Give the root values of M and N

M – Lesser Occipital nerve, C2,3

N – Accessory nerve, C1-5

10. (a) Name two sinuses lodged by H apart from the right and left transverse sunuses

- **Tentorium cerebeli**

Straight sinus

Superior petrosal

(b) Name one nerve contained medially in the carvenous sinus

CN VI

(c) What is the anatomical basis of neck stiffness in meningitis

Cervical nerves sensory to the meninges, motor to the neck muscles

11. (a) State the source of blood supply to part of the cortex labeled D

Calcarine branch of posterior cerebral artery

(b) Name the part labeled T

Pulvinar of thalamus

(c) Mention two manifestation of the lesions affecting the inset region labeled W

- **Paracentral lobule**

Contralateral paralysis in the lower limb

Contralateral sensory loss of the lower limb

12. (a) Identify the structures labeled U and V

Basilar artery

Abducens nerve

(b) State the origin and termination of the fibres in Z

- **Pyramids (corticospinal)**

Origin: Pyramidal cells in the cortex

Termination: Anterior horn cells (ventral horn)

13. (a) Identify the structures labeled X and Y

Hippocampus

Optic radiation

(b) Name two structures forming the medial wall of the posterior horn of the lateral ventricle

Forceps major

Calcar avis

14. (a) Name two afferents to K

- **Caudate nucleus**

Corticostriate

Nigrostriate

Thalamostriate

(b) Name the parts of the brain connected by inferior longitudinal fasciculus

Temporal

Occipital lobes

15. (a) Name two efferents from the part of the brain labeled H

- **Mamillary body**

Mamilothalamic

Mamilotegmental

(b) Name two nuclei of the nerve pointed by the probe in the pons

Chief nucleus of V

Motor nucleus of V

16. (a) Name the parts of the ear labeled 2 and 4

2 – Crux of antihelix

4 – Scaphoid fossa

(b) State the innervation of the muscles of tympanic cavity

Tensor tympani - nerve to medial pterygoid from V3

Stapedius - facial nerve

17. (a) Give the superior attachment of N

Masseter

Zygomatic arch

(b) Describe how M is formed

Retromandibular vein

Union of maxillary and superficial temporal veins

(c) Give two clinical manifestation of Bell's palsy

Flaccid paralysis of the ipsilateral muscles of facial expression

Decreased lacrimation in the ipsilateral eye

Hyperacusis or decreased tolerance of loud noises in the ipsilateral ear due to paralysis of stapedius

18. (a) Name two vessels which drain into A

- **Coronary sinus**

Great cardiac

Small cardiac

Middle cardiac veins

Posterior vein of the left ventricle

Oblique vein of the left atrium

(b) Give two possible sources of B

- **PIV artery**

RCA

LCX

19. (a) Identify F and its function

- **Moderator (Septomarginal) Band**

Contains the right crus of the conducting system

(b) State the components of a heart valve apart from the cusps

Corda tendinae

Papillary muscle

20. (a) Side the lung shown and identify the structure making the impression labeled L

Right lung

Azygous vein

(b) Define a bronchopulmonary segment

21. (a) Identify Y

Sympathetic chain

(b) Name two structures that traverse the thoracic diaphragm at the level of T8

Inferior vena cava

Right phrenic nerve

(c) Mention one cyanotic heart disease

5Ts(Tetralogy of Fallot, tricuspid atresia, patent truncus arteriosus, total anomalous venous return, transposition of great arteries)

22. (a) Describe the arterial blood supply to the esophagus

Cervical - Inferior thyroid artery

Thoracic - Bronchial arteries and Ooesophageal arteries

Abdominal - Left inferior phrenic Left gastric arteries

(b) Give one clinical relevance of blood supply to the esophagus

Lower esophagus is a site of portosystemic anastomosis

Esophageal varices in portal hypertension

23. (a) Name the structures related to the parts labeled N and P of the liver

N – Head of pancreas

P – Transverse colon

(b) Name the support structures of the liver

IVC and hepatic veins

Coronary and triangular ligaments

Pressure of abdominal viscera

Atmospheric pressure

24. (a) Name the origin of the vessels which supply part C

Right gastroepiploic – Gastroduodenal

Left gastroepiploic – splenic

(b) State the origin of the azygous vein

Subcostal and right ascending lumbar

25. (a) Describe the usual position/ location of the spleen

Left hypochondriac region, supracolic compartment, below the diaphragm, within region of ribs 9,10,11

(b) Name the structures that form the roof of the inguinal canal

Medially – Internal oblique

Laterally – Transverses abdominis