TOPIC	QUESTIONS	KNOWLEDGE (essential in bold)	NOTES
Question 1: Femur (Bony Landmarks)	Identify the important features of this bone	Head, fovea, neck, greater / lesser trochanters, trochanteric fossa, intertrochanteric crest (post) / line (ant), shaft, linea aspera, med + lat femoral condyles, intercondylar fossa, adductor tubercle, patellar surface	Bold + 2 to pass
	Describe the blood supply to the head of the femur	Via posterior retinacular arteries of medial circumflex femoral artery. Lateral circumflex femoral artery contributes a little via cruciate anastomosis. Possibly from foveal artery (branch of obturator artery)	Bold to pass
	What is the clinical significance of this	Intracapsular #s (subcapital, transcervical) may lead to AVN of head of femur, especially if displaced	Bold to pass
Question 2 CT Brain (Describe Structures)	Identify the anatomical features of the brain shown on this CT	Lateral ventricles-anterior and posterior horns Choroid plexus Lobes- frontal, parietal, occipital and temporal (3 of 4) + Gyri/ sulci Falx cerebri Thalamus, caudate nucleus, internal capsule(ant/post limb) Lentiform nucleus	Bold to pass
	Describe the circulation of CSF in the brain	Formed in choroid plexus in lat/3/4 ventricles. Drains from lat to 3 rd via iv foramen then 4 th via aqueduct then into SA space and brainstem cisterns. Absorbed from SA space by arachnoid granulations	Bolded info plus sequence of lat to third to 4 th ventricles

Question 3 Photo Left Lung Root/Mediastinum (Describe Structures)	This is a longitudinal section through the hilum of the left lung. What structures can you identify?	23,Heart (LV), 26, pericardium, 3,32 aorta, 18 L subclavian art, 4 L costocx trunk,12 L internal thoracic art,10 L common carotid,22 vagus n, 16 L pulm art, 15 L main bronchus, 11,21 pulm vv,9 L brachioceph v,31 sympathetic trunk, 14 phrenic nerve	Bold plus 4 others to pass Bold to pass
	What are the branches of the aortic arch	Brachiocephalic trunk (dividing into RCC and RSC), L common carotid and L subclavian	
Question 4 Model Female Pelvis (Organs)	Identify the major anatomical structures in this model.	Rectum, Uterus, Bladder, Sacrum, Pubic symphysis, Peritoneum, vagina, ovary, fallopian tube, Round ligament Broad ligaments, Int and Ext iliac vessels	8 to pass
	Name the potential spaces where free fluid can accumulate in the pelvis and demonstrate their boundaries	Vesicouterine pouch (anterior to bladder) & Rectouterine pouch (of Douglas) between ant rectum and post uterus, open above to peritoneum, close to cx and post fornix of vagina, inferior most ext of peritoneal cavity	ID name and location of each in bold
Question 5 Discussion Movements of Thumb	Describe the origins and insertions of the muscles in the thenar eminence	APB, FPB, OP (all originate flexor retinaculum and scaphoid/trap tubercles) APB inserts lat side base prox phal, OP inserts lat 1 st MC FPB both heads insert base lat prox phal.	All bold and 1 correct origin and 1 correct insertion
	Demonstrate the movements produced by these muscles.	OP opposes (mc to middle palm, rotates), ABD abducts the MCP jt, helps opposition, FPB flexes the MCP jt	Demonstrate 2 correctly
	What nerves innervate these muscles?	All recurrent br. Med n, except deep head FPB -deep Br ulnar nerve variable ++ or recurrent Br Median nerve	Must ID median n

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TOPIC	QUESTIONS	KNOWLEDGE (essential in bold)	NOTES
Question 1: Bone Tibia (Bony Landmarks)	Identify this bone and its main features	Side bone, identify anterior and interosseus borders Tibial tuberosity, shaft, medial malleolus, tubercles of intercondylar eminence, medial and lateral condyles, facet for fibula, soleal line,	Bold plus 6 features
	Describe the articulations between this bone and the fibula	Tibiofibular joint (superiorly) and tibiofibular syndesmosis (inferiorly) TF joint- synovial joint b/w facet fibular head and on posterolaterally on lateral tibial condyle. Joint capsule strengthened by ant and posterior ligaments of the fibular head TF syndesmosis-compound fibrous joint, it is the fibrous union of tib & fib by the IOM and the ant and post tibiofibular ligaments	Both joints identified and 1 classified to pass
Question 2 CT Abdomen (Describe Structures)	Identify the structures visible on this CT	Liver/duodenum/IVC/pancreas/splenic vein/kidneys/spleen/aorta/coeliac trunk/crus of diaphragm/small bowel/ribs, vertebral body	Bold plus 2 others to pass Prompt for pancreas
	What are the branches of the abdominal aorta?	Single – coeliac trunk, SMA, IMA Paired –gonadal, renal, suprarenal, inferior phrenic, lumbar, subcostal. Terminating as common iliacs	Bold plus two paired branches to pass
Question 3 Photo Thoracic Inlet (Describe Structures)	Identify the vascular structures in this photo.	Common carotid aa left 14, & right 19, brachio- cephalic trunk 4, , right subclavian a. 21, brachiocephalic vv right 18 & left 13, subclavian vv 24, left internal jugular v 8, thyrocervical trunk 32	5/8 to pass
	What is the anatomical relationship of the internal jugular vein to the carotid artery?	Superiorly IJV lies posterior to ICA Passes inferiorly in the carotid sheath with vagus n between IJV and carotid Inferiorly IJV lies lateral to CCA, passes deep to heads of SCM	2 of 3 bold to pass
	Describe the surface marking of the internal jugular vein.	From earlobe/mastoid to medial end of clavicle	Bold to pass

Question 4 Model Heart (Coronary Artery/Valves)	Using this model, describe the arterial supply of the Heart	Main coronary vessels arise from the corresponding aortic sinuses above the AV R Coronary courses inferiorly in AV grove, 3 Branches – SA nodal, Marginal, Posterior Interventricular L Coronary – bifurcates into Circumflex & LAD Cx gives off Marginal Br, LAD gives off Diagonals	Bold and 1 other to pass
	Using this model identify the chambers and valves of the heart	RA, Tricuspid v, RV, Pulmonary v, LA, Mitral v, LV, Aortic v	Must identify all chambers and valves
	Identify the components of the Tricuspid V	3 cusps — Anterior, Posterior & Septal Chordae Tendinae Papillary Muscles	2 of 3 to pass
Question 5 Discussion Sensory Innervation (Upper Limb)	Demonstrate the dermatomes of the upper limb	C4 – lateral shoulder C5 – lateral arm C6 – lateral forearm & thumb C7 – middle / ring fingers & center of posterior forearm C8 – little finger, medial hand / forearm T1 – medial forearm, inferior arm T2 – medial arm, axilla	5 to pass. General concept of distribution required
	On your own hand demonstrate which nerves supply sensation to which parts of the hand? Prompt: Demonstrate the peripheral cutaneous innervation of the hand	Median –palmar & distal dorsal tips of lateral 3.5 digits Ulnar – palmar & dorsal surface of medial 1.5 digits Radial – dorsal aspect of lateral 3.5 digits (excluding tips)	All 3 nerves & correct distribution

ACEM PRIMARY 2013/1 Anatomy VIVA

Morning Session 3

Candidate Number:

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TOPIC	QUESTIONS	KNOWLEDGE (essential in bold)	NOTES
Question 1: C1/C2 (Bony Landmarks/Articulatio n)	C2 – identify the features of this bone.	C2 (axis). Body, dens, superior and inferior articular facets, pedicle, transverse process, transverse foramen, lamina, spinous process, vertebral foramen,	Dens and 5 others to pass
,	Describe the joints between C1 and C2	Lateral atlanto-axial joints (facet joint) and joint between anterior arch of C1 and dens. Both synovial joints – first one hinge, second one pivot	ID location of both joints to pass
	Which ligaments stabilise these joints?	Cruciate (cruciform) ligament – vertical and transverse components Alar ligaments Post longitudinal lig continued as tectorial membrane Anterior longitudinal ligament, Ligamentum flavum, Nuchal ligament, Interspinous ligament, Joint capsule	2 of 3 bold and 1 other
Question 2 X-Ray Foot AP/lat	Identify the bones in this xray	Calcaneus, Talus, Navicular, 3 Cuneiforms, cuboid and metatarsals, phalanges, distal tibia, distal fibula).	4 of 5 bold plus 2 others
	What are the movements that occur in the foot and the joints where those movements occur?	Inversion / eversion - subtalar (talocalcaneal) and calcaneocuboid Flexion /extension at MTP joints Flexion /extension at IP joints	Must ID eversion /inversion and name one of the two joints involved
Question 3 Photo Palm of Left Hand (Describe Structures)	Using the photograph as a guide describe the vascular supply of the hand Prompt: Can you identify any of them	Ulnar Artery (21) forming the Superficial palmer arch (18) Radial Artery (17) forming deep palmar arch	Identify ulnar artery and superficial palmar arch Describe radial artery and deep palmar arch 3 to pass
	What other major structures can you identify	12-Median N, 13-Med N – Palmer Br, 14-Med N – Recurrent Br, 15-Digital nerves, 22-Ulnar N 1- Abductor pollicis brevis, 2- Abductor digiti minimi, 3- Adductor pollicis, 8- Flexor digiti minimi brevis, 9- Flexor pollicis brevis, 11- Lumbrical, 16- Palm Br 6- FCR, 7- FCU, 10-Flex Retinacum, 20-Synvo Sheaths of flex tendons	Bold and 6 others to pass

Question 4	Identify the structures that form the male	Bladder, ureter, prostate gland, seminal gland,	6 to pass
Model Male Pelvis (Urinary	genitourinary system in this model	spermatic cord, testis, epididymis, penis	0 to pass
System/Testes)	What are the contents of the spermatic cord?	Ductus deferens, artery of ductus deferens, testicular artery, testicular vein → pampiniform plexus, lymphatics, autonomic nerves (sympathetic, parasympathetic)	Bold to pass
	Indicate on the model the location of the named parts of the male urethra	Intramural (base of bladder wall), prostatic (length of prostatic), membranous (short narrow section surrounded by ext sphincter) and spongy (length of corpus spongiosum)	3 of 4 to pass
Question 5 Discussion Circle of Willis	Draw a diagram depicting the Circle of Willis	Anterior communicating Anterior cerebral Ophthalmic Middle cerebral Cerebral Internal carotid Posterior communicating Posterior cereballar Basilar Labyrinthine (internal acoustic) artery Anterior inferior cerebellar artery Posterior inferior cerebellar Vertebral Anterior spinal	ID 3 paired arteries and ICA to pass
	Which arteries supply which parts of the brain?	Anterior cerebral a – Frontal lobe, medial and superior surface Middle cerebral a - Temporal lobe and lateral surface Posterior cerebral a - Occipital lobe, inferior surface Vertebro-Basilar	BOLD TO PASS