ACEM PRIMARY 2012/2 Anatomy VIVA **Morning Session 1** ***Candidate Number.....*** **AGREED MARK.....**

TOPIC	QUESTIONS	KNOWLEDGE **(essential in bold)**	NOTES
Question 1: **Bone** Bones of the foot LOA: 2	Identify the bones of the tarsus and foot	**Talus** – body, neck, head, trochlea **Calcaneus** – tuberosity ,**Navicular** – tuberosity, **Cuboid** **Cuneiforms** – medial, intermediate & lateral **Metatarsals** - 1-5 **Phalanges** – prox, middle & distal	Name all bold
	What are the major dorsiflexors of the foot and where do the attach	Tib anterior – base 1st met, med cuneiform EHL – middle & distal ph EDL – distal ph F Tertius – base of 5th met	3 of 4
Question 2 **Xray** Elbow LOA: 1	Identify the bony features on this XRay	Medial/lateral epicondyles, capitellum, olecranon, radius-head/ neck, olecranon fossa, coronoid fossa, trochlea, proximal radio-ulnar joint, coronoid process of ulnar	6 to pass
	What factors determines the stability of the elbow joint?	**Bony factors-shape of trochlea /olecrannon fossa** Joint capsule-fibrous joint capsule weak **Ligaments-** ***radial collateral ligament***- lateral epicondyle and blends with the ***annular ligament*** of the radius (holds the radial head in the radial notch of the ulnar). Medial ***ulnar collateral ligament*** *(3 bands)* from medial epicondyle to the coronoid process and olecrannon of the ulnar Muscles- biceps, brachialis, (BR) , triceps RCL and UCL and annular ligament	3 of 4 bolded Prompt – what are the ligaments of the elbow jt

Question 3 **Photo** Extracranial facial nerve	Name the branches of the facial nerve and indicate their position in the photo What is its main function? What else does it supply?	Forms parotid plexus in gland with 5 branches **5 Buccal 15 Marginal mandibular, 25 Temporal, 27 Zygomatic** , cervical (not seen) **Motor nerve to muscles of expression** + digastric, stylohyhoid & stapedius taste anterior 2/3 tongue, skin close to external acoustic meatus, lacrimal gland, sublingual and submandibular glands	4 of 5 Prompt if necessary by Bold to pass Must note one
Question 4 **Model** Posterior compartment of leg LOA: 1	Identify the muscles of the posterior compartment of the leg? What is the nerve supply of these muscles? Using the model describe the course of this nerve in the leg?	Superfical – gastroc, soleus ,plantaris Deep: Popliteus, FHL , FDL , Tibialis post b) Tibial branch of **sciatic nerve** c) Formed at apex of popliteal fossa by **bifurcation of sciatic** Runs **vertically in pop fossa** with pop artery, passing between heads of gastroc and deep to tendinous arch of soleus Runs inferiorly on tib posterior with post tib vessels Divides into medial and lateral plantar nerves under flexor retinaculum	1 superficial, 3 deep Must name nerve Comes from sciatica and terminates as plantar nn
Question 5: **Discussion** Superior mediastinum LOA: 2	Describe the vascular structures which lie in the superior mediastinum Can you name the other structures which lie in the sup mediastinum	Aorta Asc – technically in inf mediastinum. A rch – extends superiorly, posteriorly and left before heading inferiorly. Branches – BC trunk (which becomes RSC and RCC), L CC L SC Veins – L & R IJV and SCV each unite to form L&R BC vein. LBCV passes anterior to Ao arch/branches to meet RBCV and form SVC Thymus, Vagus nerves (R give R rec laryngeal looping around RSC art, phrenic nerves, trachea, oesophagus	**Name all 3 branches of Ao arch & formation of BCVs** Prompt (may well be needed!) Describe the arch aorta Describe the great veins in the upper chest Would you like to draw this? Bonus pts

ACEM PRIMARY 2012/2 Anatomy VIVA **Afternoon Session 2** ***Candidate Number.....*** **AGREED MARK.....**

TOPIC	QUESTIONS	KNOWLEDGE **(essential in bold)**	NOTES
Question 1: **Bones** Scapular LOA: 1	Identify the anatomical landmarks of this bone	**Glenoid, spine, supra/infra spinus fossae, subscap fossa, coracoid and acromion processes** Suprascap notch, supra/infraglenoid tubercles, inf angle, med/lat border	Correct side and 6 of 7 of those in bold And 2 of the rest
	Demonstrate the muscular attachments on the posterior surface	Superior - Lev scap, inf belly o-h, biceps/coracobra Medial – Lev scap, rh min/maj, lat dorsi Lateral – long hd triceps, teres min/maj, lat dors **Supraspinatus** and **Infraspinatus** Spine - **Trapezius** (sup) and **Deltoid** (inf)	3 of 4 in bold plus 3 others
	What are the muscles involved in ABduction of the shoulder joint	Intitiated by supraspinatus, then **deltoid**	Must know deltoid
Question 2 **XRAY** Knee, extra capsular and intra-articular ligs LOA: 1	Indentify bony structures are shown on this x-ray?	**Femur** – condyles (medial & lateral), epicondyles (medial & lateral), Adductor tubercle **Tibia** – condyles (medial & lateral), tibial plateau, intercondylar eminence with intercondylar tubercles (medial & lateral) **Fibular** – head with apex, neck **Patella**	All bold plus 6 others
	What factors stabilise the knee joint	1. Strength & actions of surrounding **muscles and their tendons** – most impt **quadriceps femoris**, esp inferior vastus medialis & lateralis 2. **Ligaments** connecting femur & tibia - **Cruciates & collaterals** (Most stable position = erect extended knee – articular surfaces most congruent, Cruciates and collaterals taut and jt splinted by many tendons)	Must ID muscle groups and all 4 main ligs
	Describe the attachments of the cruciate ligs	ACL attaches ant and runs up & laterally, PCL opposite	Must identify A/P tib attachments

Question 3 **Photo** Median nerve in hand LOA: 1	What structures can you identify in this image? What are the attachments of the flexor retinaculum and what does the carpal tunnel contain? Describe the median nerve supply in the hand	**Median nerve**, FCR, BR, FCU, FDS, FDP, ulnar nerve, ulnar artery, lumbricals, thenar muscles-APL, APB, FPB Boundaries: roof- flexor retinaculum, floor-scaphoid & trapezoid laterally, pisiform and hook hamate medially Contents: Median nerve, FDP, FDS, FPL, FCR Sensory- palmar-thumb and index and middle fingers, dorsal surface- distal aspect thumb, index, middle and half ring fingers Motor- LOAF muscles (lat 2 lumbricals, OP, APB, ,FPB)	Median nerve plus 4 muscles to pass 3 of 4 flex ret attachments and 4 of 5 contents Both motor & sens to pass
Question 4 **Model** Lower limb - buttock region LOA: 1	The gluteus maximus has been removed. Please identify the main structures seen here Can you demonstrate the course of the sciatic nerve and name the muscles that it supplies in the thigh	**Sciatic nerve** **Piriformis** Gamelli – sup/inf Obt internus Gluteus medius Ischial tuberosity/greater troch Quadratus femorus, obt ext **Muscles of the posterior compartment of the thigh** - Common fibular part – supplies short head biceps femoris - Tibial part – supplies the rest, namely; Long head biceps femoris Semitendinosus Semimembranosus Hamstring portion of adductor magnus	2 bold and 2 others to pass 2 of 4 muscles and nerve is deep to hamstrings and bifurcates to named terminal branches
Question 5 **Discussion** Posterior abdomen, retroperitoneal compartment LOA: 2	Describe the course and branches of the abdominal aorta What is the relationship of the IVC to the aorta	aortic hiatus of **diaphragm at T12** Ends at **bifurcation to common iliac aa at L4** Branches: - **Coeliac** (T12), **SMA** (L1), **IMA** (L3); Suprarenal (L1), **renal** (L1), gonadal (L2); Subcostal (L2), Inferior phrenic (T12), Lumbar (L1-L4) (2 of minor branches) **IVC:** lies posterolateral and to the R. Leaves abdomen through **caval opening of diaphragm** at T8 Drains from lower limbs and non-portal blood **Tributaries correspond to paired vessels of Ao**	3of bold, 1 of non-bold Behind and to the R

ACEM PRIMARY 2012/2 Anatomy VIVA Morning Session 3 *Candidate Number.....* AGREED MARK.....

TOPIC	QUESTIONS	KNOWLEDGE **(essential in bold)**	NOTES
Question 1: **Bone** Clavicle LOA: 2	a) Identify and describe the features of this bone *Prompt- what other bones does it articulate with?*	Name and side bone Medially- **sternal end,** articulates with manubrium Laterally- **articulates with acromion** Inferiorly-conoid tubercle and trapezoid line, for coracoclavicular ligament; subclavian groove; Impression for the costoclavicular ligament	All bold and 3 other features
	b) What structures stabilise the acromioclavicular joint *Prompt – what ligaments?*	Ligaments of the joint **Acromioclavicular ligament** **Corocacoclavicular ligament** – conoid and trapezoid components	Name both ligaments
Question 2 **Xray** Ankle LOA: 1	1. Identify the bony features on this xray	**Fibula/lateral malleolus** **Tibia/medial malleolus** **Talus** head, neck, body **Navicular, Calcaneus,** metatarsals	Bold to pass
	2. Please describe the ligamentous attachments of the ankle joint	**3 lateral ligaments** – anterior talofibular (weak) - post talofibular (runs med, strong) - calcaneofibular (round cord, passes post/inf from tip of fibula)	Bold plus 2 out of 3 lateral ligaments named
		1 Medial ligament – deltoid ligament – medial malleolar attachment fans out to ant/post talus, calcaneus and navicular	Bold to pass
Question 3 **Photo** Femoral artery LOA: 1	Using this photograph describe the course and relationships of the femoral artery Prompt	Continuation of external iliac A. , enters femoral triangle **deep to midpoint of inguinal ligament** (midway between ASIS and pub tub) **lateral to femoral vein**, posterior/ deep to fascia lata, anterior **/ lies on (1 of 2)** iliopsoas and pectineus, **medial to femoral nerve.** Fem artery continues down thigh deep to Sartorius and **pass through adductor canal and becomes popliteal art at adductor hiatus**	All bold

	Describe the branches of the femoral artery Prompt: what branch supplies the head of femur	**Profunda femoris** ("**deep artery of thigh**"!) branches off post-lat in triangle to supply thigh, passes behind add longus. Gives med and lat cx fem arteries. Med cx fem supplies NOF 4 branches anterior part in fem triangle (superf epig, superf cx iliac, superf and deep external pudendal)	Profunda and 1 other.
Question 4 **Model** Extraocular muscles LOA: 1	Identify the muscles responsible for eye movement and describe their function What is the nerve supply to these muscles? What are the effects of an oculomotor nerve palsy?	**Supr (elev**, add), **medial, inferior (dep**, add), **lateral rectus** **Superior oblique (dep,** abd) and **Inf (elev,** abd) **oblique**. **Oculomotor (III) N** to all, except Abducent (VI) N (Lat Rectus) and Trochlear (IV) to Supr oblique. **Dep and Abd – dilated pupil, ptosis.**	All bold 3rd N and one other to pass
Question 5 **Discussion** Lungs LOA: 2 Page 199 Moore 6th	Can you describe the surface anatomy of the lungs and pleura? What are the anatomical structures to consider when inserting a lateral chest tube?	R Lung- Apices of L & R lung begin in **supraclavicular fossa** Lungs and visceral pleura run **parasternal to 6th costal** cartilage – then pass laterally to **MCL 6th rib, MAL 8th** rib, **SL at 10th** rib in contrast to parietal pleura which is at mid-clavicular line at 8th CC, 10th rib at mid-axillary line, 12th rib at scapular line Oblique fissure – spinous process T2 posteriorly – to 6th costal cartilage anteriorly Horizontal fissure R extends from oblique fissure at level of 4th rib & costal cartilage **Above the rib below** to avoid neurovascular bundle The level 5th or 6th Intercostal space to **above diaphragm** **Ant or Mid ax line** to avoid long tx nerve posteriorly	Prompt if necessary 2 of 5 bold