

# **Vascular Practice Exam**



## **EXAM SECTION**

Question No:1 Maximum Marks 4

Answer true or false in relation to the below statements relating to beta blockers:

A	O True	<ul><li>False</li></ul>	are used secondary prevention of myocardial infarction
В	O True	O False	are used in treatment of pulmonary hypertension
С	O True	O False	are a Class 1 antidysrhythmic drug
D	O True	O False	increase refractory period of the AV node



**Question No:2** 

**Maximum Marks** 

1

In the immediate (type 1) hypersensitivity reaction

- A . mast cell activation is not affected by phospholipase A2
- B . sensitized mast cells with attached IgA antibodies are activated to release granules
- C . T helper 1 (Th 1) cell responses in Type 1 hypersensitivity reactions are typically excessive
- D . there may only be a localized reaction
- E . the late-phase reaction requires additional exposure to antigen and may last for several day



Question No:3 Maximum Marks

With respect to angiogenesis during healing

A	0	True	O False	nitric oxide (NO) production is suppressed, which stimulates sprouting of new vessels
В	0	True	O False	the Notch signalling pathway ensures proper spacing of new vessels
С	0	True	O False	TGF-ß stimulates endothelial proliferation
D	0	True	O False	fibroblast growth factors (FGFs) suppress endothelial proliferatio



Question No:4 Maximum Marks

Platelet activating factor (PAF)

A	O True	<ul><li>False</li></ul>	causes bronchoconstriction
В	O True	O False	increases venular permeability
С	O True	O False	production is inhibited by COX-2 inhibitors
D	O True	O False	can be produced by endothelial cell



Question No:5 Maximum Marks 4

After injury to the wall of a blood vessel

Α	0	True	0	False	platelet adhesion and aggregation contribute to the temporary haemostatic plug
В	0	True	0	False	activation of coagulation by the intrinsic system contributes to the definitive haemostatic plug
С	0	True	0	False	local vasoconstriction contributes to the temporary haemostatic plug
D	0	True	0	False	the conversion of fibrinogen is activated by thrombin



Question No:6 Maximum Marks

Long term compensatory mechanisms to moderate haemorrhage include

A	$\circ$	True	○ False	mobilization of protein free extravascular fluid
В	0	True	O False	mobilization of preformed albumin from intravascular stores
С	0	True	O False	hepatic synthesis of protein
D	0	True	O False	increased red cell 2,3-DPG



Question No:7 Maximum Marks

Consequences of insulin deficiency in type 1 diabetes mellitus include:

Α	O True	O False	decreased glucose uptake by cells
В	O True	O False	decreased protein catabolism
С	O True	O False	increased plasma free fatty acids
D	O True	O False	peripheral oedema



**Question No:8** 

Maximum Marks

The inferior vena cava

A	0	True	O False	is formed anterior to the third lumbar vertebra
В	0	True	O False	leaves the abdomen at the level of the eighth thoracic vertebra
С	0	True	O False	is anterior to the epiploic foramen
D	0	True	O False	receives the right suprarenal vein



Question No:9 Maximum Marks

Renin secretion is increased by

## Choose the correct answer

A O True O False decreased sodium (Na+) exchange in the macula densa
 B O True O False vasopressin
 C O True O False hypokalaemia
 D O True O False inhibition of renal sympathetic nerve activity



Question No:10 Maximum Marks

Low density lipoprotein (LDL)

A	O True	O False	contains more triglyceride than cholesterol
В	O True	O False	contains cholesterol predominantly in the unesterified form
С	O True	O False	originates primarily in the intestine
D	O True	O False	is derived in part from VLDL in the circulation



Question No:11 Maximum Marks 4

Adverse effects of ionising radiation include:

Α	0	True	O False	fibrosis of salivary glands
В	0	True	O False	cataracts of the lens
С	0	True	O False	carcinoma of the thyroid
D	0	True	O False	decrease of dopamine reuptake in the central nervous system.



Question No:12 Maximum Marks 4

With regard to unfractionated heparin

A	0	True	O False	the anticoagulant effect is more readily reversed by protamine than low molecular weight heparins
	_		_	osteoporosis occurs with chronic use
С	0	True	O False	heparin-induced thrombocytopenia type 2 is an absolute contraindication to continued use
D	0	True	O False	hyperkalaemia can occur with prolonged use



Question No:13 Maximum Marks

Protein C

A	O True	O False	is activated by Protein S
В	O True	O False	is activated by thrombin-thrombomodulin complex
С	O True	O False	when activated, inactivates activated factors V (Vc) and VIII (VIIIc)
D	O True	O False	when activated, inactivates plasminogen activator inhibitor



Question No:14

**Maximum Marks** 

4

Factor V Leiden mutation

A	O True	O False	is associated with venous but not arterial thromboembolic events
В	O True	O False	can be identified using polymerase chain reaction
С	O True	O False	usually presents clinically after the fifth decade of life
D	O True	O False	is characterised by protein C resistance



Question No:15

**Maximum Marks** 

The portal vein

A	0	True	O False	runs upwards between the layers of the lesser omentum
В	0	True	O False	is usually formed by the union of the splenic and superior mesenteric veins
С	0	True	O False	drains blood from the stomach and oesophagus
D	0	True	O False	lies medial to the hepatic artery proper



Question No:16 Maximu

**Maximum Marks** 

4

The external carotid artery lies

A	O True	O False	on the middle constrictor muscle
В	O True	O False	deep to the stylohyoid muscle
С	○ True	O False	superficial to the stylopharyngeus muscle
D	O True	O False	superficial to the pharyngeal branch of the vagus nerve



Question No:17

**Maximum Marks** 

ks | 4

The femoral nerve

A	O True	O False	gives, directly or indirectly, branches to the hip and knee joints
В	O True	O False	gives branches to the quadriceps femoris muscle
С	O True	O False	originates from the second, third and fourth lumbar spinal nerves
D	O True	O False	supplies tensor fasciae latae



Question No:18 Maximum Marks 4

The great saphenous vein

A	0	True	O False	is accompanied by lymphatics that drain most of the lower limb
В	0	True	O False	is the pre-axial vein of the limb
С	0	True	O False i	s anterior to the medial malleolus
D	0	True	O False	usually drains the deep veins of the calf by a single branch close to the knee ioint



Question No:19 Maximum Marks 4

The sympathetic trunk in the thorax

Α	O True	O False	has white rami communicantes lying proximal to the grey rami
В	O True	O False	supplies the abdomen through the hypogastric plexuses
С	O True	O False	usually has up to twelve ganglia
D	O True	O False	supplies sympathetic fibres to the eve and face via the T1 outflow



Question No:20

**Maximum Marks** 

4

The hypoglossal nerve

A	O True	O False	emerges from the medulla oblongata ventral to the olive
В	O True	O False	initially lies deep to internal jugular vein
С	O True	O False	leaves the skull through a canal in the occipital bone
D	O True	O False	supplies intrinsic but not extrinsic muscles of the tonque



Question No:21 Maximum Marks

Common predisposing causes of aortic dissection include

A	O True	O False	cystic medial degeneration
В	O True	O False	syphilitic aortitis
С	$\bigcirc \ True$	O False	systemic hypertension
D	O True	O False	aortic atherosclerosis



**Question No:22** 

**Maximum Marks** 

4

# **Question Description**

Coagulation

With regard to coagulation, an effective indicant of

Α	0	True	O False	intrinsic coagulation activity is the activated partial thromboplastin time (APTT)
В	0	True	O False	extrinsic coagulation activity is the prothrombin time (PT)
С	0	True	O False	platelet function is the skin bleeding time
D	0	True	O False	anticoagulant activity is the level of activated factor XII



**Question No:23** 

**Maximum Marks** 

4

A moderate level of aerobic exercise produces

Α	0	True	O False	an increase in ventilation which matches the increase in oxygen consumption
В	0	True	O False	a decreased arterial pCO2
С	0	True	O False	a decrease in mixed venous oxygen levels
D	0	True	O False	a decrease in plasma bicarbonate



**Question No:24** 

**Maximum Marks** 

Chemical mediators of the inflammatory response which are derived from inactive precursors in plasma include

Α	0	True	O False	Bradykinin
В	0	True	O False	Prostaglandins
С	0	True	O False	СЗа
D	0	True	O False	Serotonin



**Question No:25** 

**Maximum Marks** 

: 4

Structures which pass between the external and the internal carotid arteries include

A	O True	O False	the hypoglossal nerve
В	O True	O False	the glossopharyngeal nerve
С	$\bigcirc \ True$	O False	a portion of the parotid gland
D	O True	O False	the stylopharyngeus muscle



Question No:26 Maximum Marks

The lateral plantar artery

Α	O True	O False anastomoses with the medial plantar artery to complete the plantar arch
В	O True	O False crosses the sole obliquely on the lateral side of the lateral plantar nerve
С	O True	O False lies superficial to the flexor accessorius muscle
D	O True	O False anastomoses with dorsalis pedis and arcuate arteries via the plantar arch



**Question No:27** 

**Maximum Marks** 

4

Factor Xa inhibitors

				False	venous thrombosis in selected patients
В	0	True	0	False	require care when co-prescribed with azole antimycotics and HIV protease inhibitors
					do not require regular blood coagulation monitoring
D	0	True	0	False o	do not have specific reversal agents available



Question No:28 Maximum Marks 4

With regard to Nitric oxide (NO)

A	0	True	O False i	t inhibits vasodilatation
В	0	True	O False	its production is induced in neutrophils and macrophages by gamma interferon
С	0	True	O False in	t strongly stimulates leukocyte recruitment
D	0	True	O False	it reacts with superoxide to form nitrogen-derived free radicals in macrophages



Question No:29 Maximum Marks

In the Lymphatic Vascular System

A	0	True	O False	there are no valves
В	0	True	O False	there is no smooth muscle in the vessel wall
С	0	True	O False	the thoracic duct drains into the confluence of the right internal jugular and subclavian veins
D	0	True	O False	there may be erythrocytes



Question No:30 Maximum Marks

In healing skin wounds

Α	O True	O False	early provisional matrix has a high content of Type III collagen
В	O True	O False	regeneration of dermal appendages occurs over several months
С	O True	O False	fibronectin from plasma plays an important role in healing
D	O True	O False	cross-linkage of collagen is achieved by metalloproteinases



**Question No:31** 

Maximum Marks

The following structures traverse the diaphragm, but do NOT go through its three major openings:

Α	O True	O False	the left phrenic nerve
В	O True	O False	right vagal trunk
С	O True	O False	the right sympathetic trunk
D	O True	O False	the left internal thoracic artery



**Question No:32** 

**Maximum Marks** 

Which of the following changes are seen in the inflammatory acute phase response?

A	O True	O False	prostaglandin production
В	O True	O False	increased production of colony-stimulating factors
С	O True	O False	increased sweating
D	O True	O False	increased concentrations of serum amyloid A (SAA) protein



**Question No:33** 

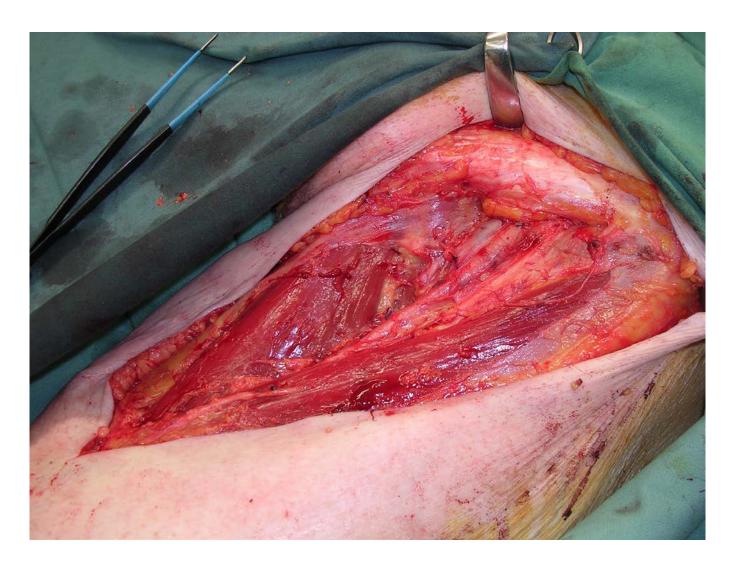
**Maximum Marks** 

s | 4

# **Question Description**

Femoral triangle

The area demonstrated in this image of the thigh



Α	0	True	0	False	is bounded laterally by the lateral border of sartorius
В	0	True	0	False	contains the common femoral vein within the femoral sheath
С	0	True	0	False	contains the femoral nerve, separated into superficial and deep branches by the medial circumflex femoral artery

**Question No:34** 

**Maximum Marks** 

4

The femoral nerve

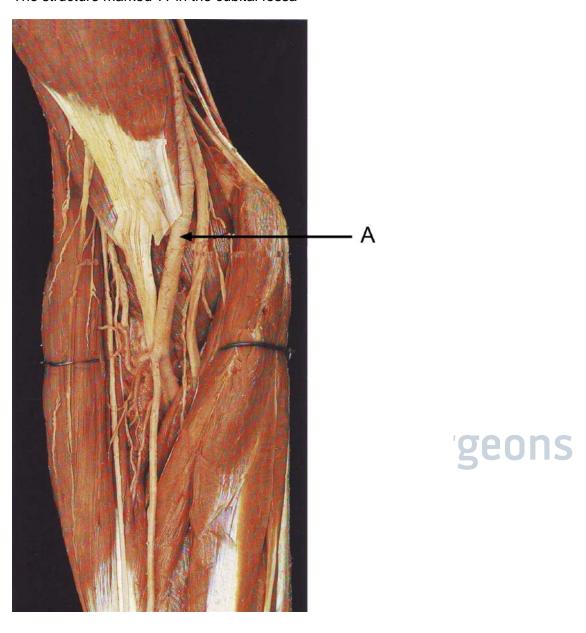
Α	O T	rue	O F	alse	consists of superficial and deep branches separated by the lateral circumflex femoral artery
В	O T	rue	O Fa	lse	gives rise to the lateral cutaneous nerve of the thigh within the abdomen
С	O Tr	rue	O Fal	lse (	gives rise to the saphenous nerve
D	O Tr	ue	O Fal	lse (	consists of fibres derived from lumbar nerves 2, 3, 4 and 5



Question No:35

**Maximum Marks** 

The structure marked 'A' in the cubital fossa



#### Choose the correct answer

A O True O False is a medial relation of the median nerve

B O True O False is a lateral relation of the tendon of biceps brachii

C O True O False gives rise to the common interosseous artery

D O True O False lies superficial to the bicipital aponeurosis

Question No:36 Maximum Marks

The arch of the aorta

A	O Irue	O False	is crossed anteriorly and to the left by the left supreme intercostal vein
В	O True	O False	has the left brachiocephalic vein above it
С	$\bigcirc \ True$	O False	usually causes an impression on the left side of the oesophagus
D	O True	O False	is crossed anteriorly and to the left by the left phrenic nerve



**Question No:37** 

**Maximum Marks** 

4

The axillary artery

A	0	True	O False	can be exposed by splitting the clavicular head of pectoralis major
В	0	True	O False	has the midpoint of the clavicle as its surface marking
С	0	True	O False	is continuous with the brachial artery at the inferior border of the teres major
D	0	True	O False	is related to the posterior cord of the brachial plexus



**Question No:38** 

**Maximum Marks** 

4

The inferior vena cava

Α	0	True	O False	enters the right atrium to the right of the fossa ovalis
В	0	True	O False	enters a deep groove on the bare area of the liver, to the right of the caudate lobe
С	0	True	O False	commences at level of L4
D	0	True	O False	is posterior to the medial part of the right suprarenal gland



**Maximum Marks** 

The first rib

A	0	True	O False	has a subclavian groove containing only the subclavian artery
В	0	True	O False	has a slip of serratus anterior and serratus posterior superior attached
С	0	True	O False	has the suprapleural membrane attached to its inner margin, behind the subclavian groove
D	0	True	O False	is the shortest, widest, flattest and most curved rib



Question No:40 Maximum Marks

Anterior relations of the right ureter include

Α	O True	O False	the root of the small bowel mesentery
В	O True	O False	the right genitofemoral nerve
С	O True	O False	the right gonadal vessels
D	O True	○ False	the inferior mesenteric vessels



Question No:41

**Maximum Marks** 

4

The internal carotid artery

A	0	True	O False	gives off the ophthalmic artery
В	0	True	O False	usually begins about the level of the sixth cervical vertebra
С	0	True	O False	is accompanied within the skull by preganglionic sympathetic nerve fibres
D	0	True	O False	enters the skull through the foramen lacerum



**Question No:42** 

**Maximum Marks** 

s | 4

Following haemorrhage of more than 20% of circulating blood volume

A	O True	• O False	the renal filtration fraction may increase
В	O True	• O False	there is a fall in cardiac output and then blood pressure
С	O True	O False	the haematocrit may not fall for several hours
D	O True	O False	aldosterone takes 30 minutes to exert its effect



Question No:43

**Maximum Marks** 

4

After injury to the wall of a blood vessel

Α	0	True	0	False	platelet adhesion and aggregation contribute to the temporary haemostatic plug
В	0	True	0	False	activation of coagulation by the intrinsic system contributes to the definitive haemostatic plug
С	0	True	0	False	local vasoconstriction contributes to the temporary haemostatic plug
D	0	True	0	False	the conversion of fibrinogen is activated by thrombin



**Question No:44** 

**Maximum Marks** 

4

Scatter radiation is affected by the following variables:

A	O True	O False	Beam size
В	O True	O False	Large distances between the x-ray source and the image intensifier
С	$\bigcirc \ True$	O False	Patient BMI
D	O True	O False	Gantry angulation



**Question No:45** 

Maximum Marks

4

Regarding disseminated intravascular coagulation (DIC)

Α	0	True	O False	there may have been intravascular release of tissue thromboplastin (tissue factor)
В	0	True	O False	thrombocytopenia is common
С	0	True	O False	heparin therapy is absoutely contraindicated
D	0	True	O False	plasma factor VIII levels fall



Maximum Marks

4

Intact endothelium secretes

A	O True	O False	thrombomodulin
В	O True	O False	adenosine diphosphate (ADP)
С	$\bigcirc \ True$	O False	an inhibitor of plasminogen activation (tPA inhibitor)
D	O True	O False	prostacyclin (PGL2)



Question No:47

**Maximum Marks** 

4

At a site of atherosclerosis

Α	0	True	O False	C-reactive protein is secreted from cells in the lesion activating local endothelial cells
В	0	True	O False	oxidised LDL stimulates release of growth factors from endothelial cells
С	0	True	O False	IFN-gamma from T lymphocytes in the intima inhibits macrophage activation
D	0	True	O False	oxidised LDL is toxic to smooth muscle cells



**Maximum Marks** 

4

Time gain compensation

Α	O True	O False	requires adjustment depending on the tissue being scanned
В	O True	O False	is reduced using transducers with greater frequency
С	O True	O False	requires adjustment when scanning obese patients
D	O True	O False	is set objectively based on the depth of the field of view



Question No:49

**Maximum Marks** 

s | 4

The superficial inguinal lymph nodes

A	0	True	O False	consist of medial, lateral and vertical groups
В	0	True	O False	receive lymph from the anterior abdominal wall below the level of umbilicus
С	0	True	O False	receive lymph from the gluteal region
D	0	True	O False	receive lymph from the distal anal canal

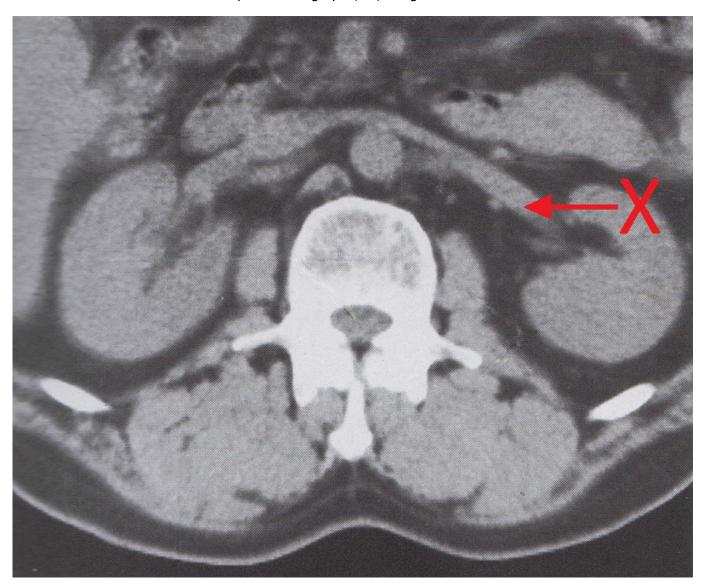


Question No:50

Maximum Marks

4

The structure marked X in the computed tomograph (CT) image



- A O True O False lies posterior to the ureter
- B O True O False has the inferior mesenteric artery anterior to it
- C O True O False receives the gonadal vein
- D O True O False receives the adrenal vein

**Question No:51** 

**Maximum Marks** 

4

In duplex ultrasound scanning aliasing

Α	O True	O False	occurs when the rate of sampling is less than twice the frequency of whatever is being sampled
В	O True	O False	can be overcome by decreasing the pulse repetition frequency
С	O True	O False	can be overcome by increasing the transmitted frequency
D	O True	O False	can be overcome by adjusting the baseline



**Maximum Marks** 

4

The tibial nerve

A	0	True	O False	is superficial to the popliteal vessels in the popliteal fossa
В	0	True	O False	gives branches to the muscles which dorsiflex the foot
С	0	True	O False	gives branches to the knee and ankle joints
D	0	True	O False	gives off the sural nerve to the medial side of the leg and foot



**Question No:53** 

**Maximum Marks** 

4

Polyarteritis nodosa

A	0	True	O False	may involve pulmonary arteries
В	0	True	O False	is characterised by fibrinoid necrosis
С	0	True	O False	is usually associated with ANCAs (antineutrophil cytoplasmic antibodies)
D	0	True	O False	is associated with chronic Henatitis B



Maximum Marks

Common predisposing causes of aortic dissection include

Α	O True	O False	idiopathic cystic medionecrosis
В	O True	O False	syphilitic aortitis
С	$\bigcirc \ True$	O False	systemic hypertension
D	O True	○ False	atherosclerosis



Question No:55 Maximum Marks 4

Regarding development of the aortic arches

Α	0	True	0	False	an abnormal origin of the right subclavian artery passes across the midline in front of the oesophagus
В	0	True	0	False	a double aortic arch results from abnormal obliteration of the right 4th aortic arch
С	0	True	0	False	the descending aorta and subclavian arteries receive arterial inflow from the pulmonary artery when obliteration of the left 4th aortic arch occurs
D	0	True	0	False	contraction of the connection between the left 6th aortic arch and the left dorsal aorta results in the ligamentum arteriosum



Question No:56

Maximum Marks

4

Thromboangiitis obliterans (Buerger disease)

Α	0	True	0	False	is commonly associated with immune reactivity to intradermal injection of tobacco extracts in affected individuals
					usually manifests with sharply segmental inflammation of medium-sized and small arteries
С	0	True	0	False	arterial thrombosis is an uncommon complication
D	0	True	0	False	most commonly presents in elderly individuals



**Question No:57** 

Maximum Marks

4

Reperfusion injury which occurs following restoration of interrupted blood flow is

A	0	True	O False	intensified by pretreatment with antioxidants
В	0	True	O False	probably dependent on influx of polymorphonuclear leukocytes to the site
С	0	True	O False	associated histologically with contraction bands in myocytes
D	0	True	O False	enhanced by the deposition of IgM antibodies in ischaemic tissues



Question No:58 Maximum Marks 4

Physiological features of septic shock include

Α	O True	O False	widespread vasodilation
В	O True	O False	reduced cardiac output
С	O True	O False	increased capillary permeability
D	O True	O False	increased cellular metabolism



**Maximum Marks** 

4

Computed tomography (CT) Hounsfield units

A	O True	O False	represent X-ray attenuation
В	O True	O False	vary depending on the patient
С	O True	O False	are expressed relative to air
D	O True	O False	vary depending on the tissue



**Question No:60** 

Maximum Marks

4

In regards to transcutaneous partial pressure of oxygen (TcPO2)

Α	0	True	0	False	Reflects the quantitative assessment of the amount of oxygen in mmHg that has diffused from the capillaries, through the epidermis, to a heated electrode
В	0	True	0	False	The independent predictive value has been precisely determined
С	0	True	0	False	Most often been investigated to determine amputation level and to determine the healing potential of ulcers or amputation wounds
D	0	True	0	False	Is limited by the fact it is time consuming, operator dependent and measurements cover a small area of tissue

