1 Functions of endothelial cells include all the following EXCEPT

A Formation of von-Willebrand factor
B Formation of collagen and proteoglycans
C Formation of IL1, IL6, IL8
D Formation of histamine
E Oxidation of LDL

2 Response to vascular injury is characterised by

A Smooth muscle cell migration from media to adventitia
B Reduced synthesis of extracellular matrix
C Shift from contractile to proliferative-synthetic phenotype
D Intimal thinning
E Reduced healing response

3 Atheromatous plaque has all the following features EXCEPT

A Covering fibrous cap
B Lipid core within the media
C Greater involvement of the abdominal aorta than the thoracic aorta
D Eccentric lesions rather than circumferential lesions
E Intracellular and extracellular lipid deposits

4 Major risk factors for atherosclerosis include all of the following EXCEPT

A Obesity
B Hyperlipidaemia
C Diabetes
D Smoking
E Hypertension

5 The most common cause of secondary hypertension is

A Renal disease
B Phaechromocytoma
C Coarctation of the aorta
D Pregnancy
E Stress

6 Concerning the pathogenesis of essential hypertension

A Genetic factors are not important
B Single-gene disorders are a major factor
C Stress is not thought to be a relevant environmental factor
D Defects in renal sodium homeostasis is a favoured hypothesis
E Decreased sodium excretion results in reduced circulating fluid volume

7 Concerning aneurysms

A Aneurysms most commonly occur in the peripheral vasculature
B The haematoma within a false aneurysm does not communicate with the vascular space
C Mycotic aneurysms are always true aneurysms
D Morphology of the aneurysms is a good indicator of pathogenesis
E Atherosclerosis is the most common cause of aneurysms

8 Abdominal aortic aneurysms

A cause 90% mortality during emergency surgery for rupture
B most commonly occur above the renal arteries
C uncommonly contain mural thrombus
D have a 2% risk per year of rupture if less than 4cm diameter
E have a 50% risk per year of rupture if greater than 5cm diameter

9 Concerning aortic dissection

A Dissection is commonly associated with marked dilatation of the aorta
B Hypertension is an important causative factor in 50%
C Dissection is most common in areas of extensive atherosclerosis
D The most common cause of death is valve disruption
E The most frequent preexisting histology is cystic medial degeneration

10 Concerning venous thrombosis

A Genetic hypercoagulability syndromes are associated in 90% of cases
B Deep pelvic veins account for 90% of cases
C Appendicitis may lead to portal vein thrombosis
D Migratory thrombophlebitis is a complication of pregnancy
E Phlegmasia alba dolens is commonly associated with paraneoplastic syndrome

11 Concerning congestive heart failure

A There is a 50% 5-year mortality
B The most common cause is valvular disease
C Venous stasis is an uncommon finding
D The heart is able to compensate by myocardial hyperplasia
E The Frank-Starling mechanism is of little importance

12 Concerning cardiac hypertrophy in response to cardiac failure

A Hypertrophy may occur as a result of hyperthyroidism
B Hyperplasia may occur if hypertrophy is maximal
C Pressure hypertrophy is characterised by normal or reduced cavity diameter
D Volume hypertrophy may be associated with decreased wall thickness
E Patients with severe aortic regurgitation usually have a normal sized heart

13 The following are features of right sided heart failure EXCEPT

A Cardiac cirrhosis
B Peripheral oedema
C Pericardial effusion
D Facial oedema
E Anasarca

14 Concerning atheromatous plaque in coronary arteries

A Most commonly, a single artery is involved
B Most patients with symptomatic IHD have lesions causing >75% stenosis
C Most clinically important plaques are distally located in the coronary arteries
D Acute coronary syndromes usually occur as a result of stable plaque
E Plaque causing greater than 95% stenosis is most likely to undergo acute change

15 Concerning ischaemic heart disease

A Death rate in the US from IHD has fallen by one half since 1980
B Stable angina results from fixed coronary lesion
C Unstable angina is characterised by complete obstruction of the artery
D Vasoconstriction can result from increased release of NO
E Thrombus is a poor activator of growth-related signals in muscle cells

16 Myocardial infarction

A is most common over the age of 65 years
B is less likely in post menopausal women due to reduced oestrogen
C is caused by plaque thrombosis in 60% of cases
D is caused by vasospasm in 40% of cases
E is more common in men except in the >85 years age group

17 Concerning response to myocardial ischaemia

A Loss of contractility occurs within 60 seconds
B Ischaemia lasting more than 10 minutes results in irreversible injury
C ATP is reduced to 50% normal in 30 minutes
D Coagulative necrosis is more important than apoptosis
E Irreversible injury initially occurs immediately adjacent to the occluded coronary artery

18 Concerning location of coronary artery stenoses

A 90% are in the left anterior descending
B 30-40% are in the right coronary artery
C Occlusion of the RCA results in infarction of the left ventricle anterior wall and anterior part of the septum
D 5% are in the left circumflex
E Occlusion of the left circumflex results in infarction of the inferior-posterior wall of the left ventricle and the posterior septum

Q	A
1	D
2	C
3	B
4	A
5	A
6	D
7	E
8	D
9	E
10	C
11	A
12	C
13	D
14	B
15	B
16	A
17	D
18	B

Vivas

Atherosclerosis - pathogenesis	April 1995 October 1999 April 2001 August 2001 April 2003	
Atheroma – microscopic features	April 2000	
Aneurysms	April 1995	
Shock – irreversible	October 1997	
Shock – cardiogenic	October 1997 April 1998	
Shock – septic	October 1997 September 2000	
Shock – haemorrhagic	October 1999 April 2003	
Myocardial infarction – pathogenesis	April 1999 April 2000 August 2001	
Infective endocarditis – pathogenesis and clinical consequences	September 2000 September 2002	
Essential hypertension	August 2001	
Hypertensive heart disease	April 2003	