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| **A-level Biology – Year 11 transition work** **The circulatory system****Quick questions**1. Arteries, veins and capillaries; (3)
2. Capillaries; (1)
3. Lung; (1)
4. To keep blood flowing one way / prevent blood flowing backwards; (1)
5. Into the ventricles; (1)
6. The coronary arteries; (1)
7. They carry blood away from the heart; (1)
8. Four; (1)
9. Carbon dioxide / monoxide; (1)
10. When it is rapidly respiring e.g. through exercise; (1)

**Total 12 marks****Examination questions****Q1.**(a)     1.      (Carry) oxygen / glucose;*Accept: oxygenated blood**Ignore references to removing waste products**Ignore references to arteries ‘pumping’ blood*2.      (To) heart muscle / tissue / cells / myocytes.*Must be supply to heart or cardiac***2**(b)     (i)      **A**;*Accept: A on its own even if outside box**Reject if two (or more) letters given***1**(ii)     **H**;*Accept: H on its own even if outside box**Reject if two (or more) letters given***1**(c)     (Aorta)1.      (is) close / directly linked to the heart / ventricle / pressure is higher / is very high;2.      (Aorta has) elastic tissue;*Accept elasticity**Ignore reference to muscle*3.      (Aorta has) stretch / recoil.***Q*** *Reject: contracts / relaxes / pumps**Accept: for mp 2 and mp 3, converse for small arteries if qualified by little / less***3****[7]****Q2.**(a)     (i)      C;*Ignore name of vessel***1**(ii)     A;*Ignore name of vessel***1**(b)     Strongest/stronger contractions;*Accept most muscle in wall / thickest/thicker muscular wall**A comparative statement is needed**Answer must be in context of producing force and not resisting it***1**(c)     1.      Blood flows from left ventricle to right ventricle/ mixing of oxygenated and deoxygenated blood;2.      Lower volume of (oxygenated) blood leaves left ventricle/flows into aorta/CORLower pressure in blood leaving left ventricle/flowing into aorta/CORLess oxygen in blood leaving left ventricle/aorta/C;**2****[5]****Q3.**(a)     Endothelium / epithelium;*Allow endothelial / epithelial**Reject: epidermis / endodermis***1**(b)     Measurement divided by 8;**1**Allow answer in range of 3-3.3 for two marks;*Correct answer gains 2 marks.***1**(c)     (i)      Stretches / ’expands’ under high pressure / when ventriclecontracts / systole and recoils / ’springs back’ under low pressure / when ventricle relaxes / diastole;***Q*** *References to aorta contracting or relaxing negates marks for stretch and recoil.*Smooths blood flow / maintains blood pressure / reduces pressure surges;*Stretch and recoil without reference to blood pressure etc. = one mark.**Stretch and recoil to smooth blood flow etc. = two marks**Ignore references to aorta withstanding blood pressure or not being damaged.***2**(ii)     (Muscle) contracts;*‘It’ in answer = muscle***1**(Arteriole) constricts / narrows / alters sizeof lumen / reduces / regulates blood flow (to capillaries);*Allow converse (muscle) relaxes and (arteriole) dilates etc / increase blood flow etc.**Ignore references to pressure***1**(d)     (i)      Large / increase in (total) cross sectional area / friction / resistance;**1**(ii)     (More) time for exchange of substances;**1****[9]** |