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| **A-level Biology – Year 11 transition work** **Variation, evolution and classification****Quick questions**1. The gradual change in the characteristics; of a population from one generation to the next / over time;
2. Natural selection;
3. Different forms/versions; of a particular gene;
4. A characteristic / feature that gives the possessor a greater chance of survival;
5. Where large groups are divided into smaller and smaller (non-overlapping) groups;
6. A group of similar organisms; that can reproduce to give fertile offspring;
7. DNA (similarities/difference in base sequence); proteins (comparing amino acid sequence); early development – embryo development;

**Total 12 marks****Examination questions****Q1.**(a)     (i)      (Grouped according to) evolutionarylinks/history/relationships / common ancestry;*Ignore: closely related, factors, characteristics**Ignore: genetically similar***1**(ii)     1.       Able to reproduce;*Accept: smallest taxonomic group/groups of organisms with same genes/ chromosomes/same number of chromosomes**Accept: breed for ‘reproduce’**Ignore: mate**Reject: genetically identical**Ignore: similar genes/chromosomes*2.       To produce fertile offspring;*Ignore: that are ‘viable’***2**(b)     PhylumClassFamilyGenus;*Accept: pleural answers phyla / genera / families**Accept phonetic answers phyllem/phylem/fylum/fyla/phylae/phyli/jenus/ jenera/familys**All 4 in correct order for 1 mark***1**(c)     1.       Two circles/with two inner circles with no overlap;*= 2 marks**OR**= 2 marks**OR**= 1 mark**OR**= 1 mark*2.       Labels correct;*Ignore underlining / capitals**Accept: P tigris/ N nebulosa**Accept phonetic spelling***2**(d)     1.      South China and Sumatran tigers share a more recent common ancestor;*Accept: more closely related (statement must be comparative)**Accept: a labelled hierarchy*2.       (because) identical/same/matching (nucleotide) sequences;*Accept: converse for Siberian tiger eg Siberian is less closely related to South China AND Sumatran tigers***2****[8]****Q2.**(a)     (i)      1.      Groups within groups;*Accept: idea of larger groups at the top* ***or*** *smaller groups at the bottom*2.      No overlap (between groups);**2**(ii)     **3**;**1**(iii)    Chordata;*Accept: if phonetically correct eg ‘Cordata’***1**(b)          1.      (Zedonk has) 47 / odd / uneven number of chromosomes;*Accept: diploid number would be odd**Reject: if wrong number of chromosomes is given*2.      Chromosomes cannot pair / are not homologous / chromosome number cannot be halved / meiosis cannot occur / sex cells / haploid cells are not produced;*Accept: cannot have half a chromosome****Q*** *Reject: meiosis cannot occur* ***in*** *sex cells***2****[6]****Q3.**(a)     (i)      Phylum, Class, Order, Genus;         Mantophasma (M) / (Mantophasma) zephyra;**2**(ii)     Groups within (larger) groups;         No overlap;**2**(b)     Comparison of / look for similar features / structures / appearance;**1****[5]** |