

Q. 1. A 1

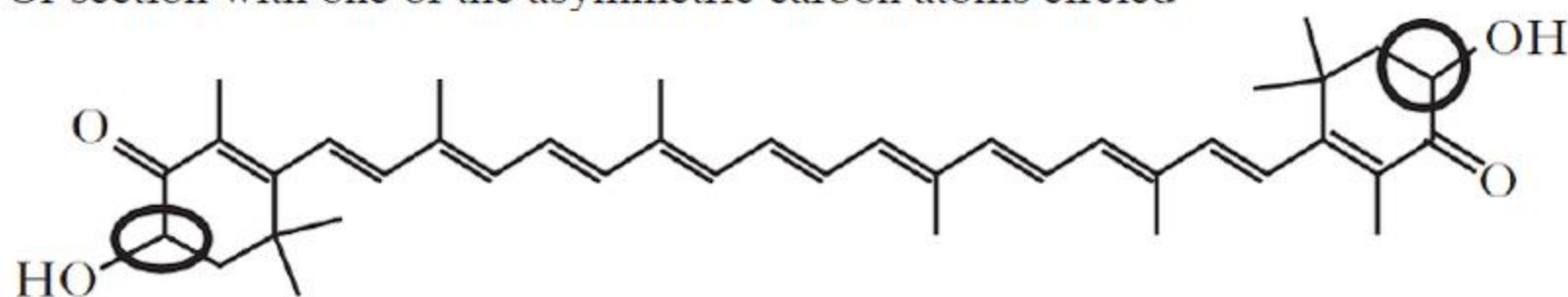
Q. 2. a) hexa-2,4-diene 1 b) Any correct structure for deca-2,4,6,8-tetraene such as

c) Conjugated/conjugation 1  1

d) As the number of alternating single and double bonds increases the energy difference between the HOMO and the LUMO decreases. 1

e) α -carotene has a shorter conjugated system or similar 1

f) Either of the two carbons connected to an OH group
Or section with one of the asymmetric carbon atoms circled 1



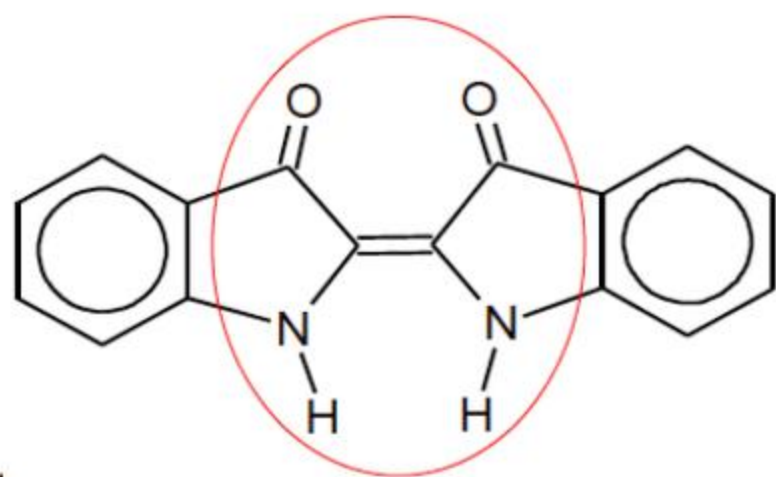
(6)

Q. 3. B 1

Q. 4. a) Alternating single double bonds/conjugated system 1

b) An answer such as red and green being absorbed (and blue being transmitted) / absorbs all colours except blue / orange absorbed / red and yellow absorbed 1

c)



Non - skeletal

Circled part most important - NH on same side with C = O on opposite.

1
(3)

5.

a) σ

b) σ

c) π

d) π^*