**13 Breathing**

Self-assessment questions 13.01

**1** (a) Energy is obtained from food by a process called ..…(A)…..

 (b) The intake of oxygen and output of carbon dioxide at a respiratory surface is called

 …..(B)…..

 (c) The process of renewing air in the lungs is called ..…(C)…..

 (d) Which of the processes A-C are included in the term ‘breathing’?

**2** Name, in the correct order, the structures that incoming air would pass through between

the nasal cavity and the alveolus.

**3** What is the function of the rings of cartilage in the respiratory passages?

**4** Using the words 'cilia' and 'mucus', describe, very briefly, how the body gets rid of dust

which enters the lungs.

**5** Which of the following is correct:

When we inhale

 (a) our intercostal muscles contract and our ribs move down

 (b) our diaphragm muscles contract and the ribs move up

 (c) our diaphragm muscles contract and the ribs move down

 (d) our intercostal muscles contract and the diaphragm muscles relax.

**6** In what two ways will the composition of blood coming from the pulmonary artery differ

from that going to the pulmonary vein?

**7** The percentage of oxygen absorbed from the air in the lungs is always about the same, so how can the oxygen supply to the blood be increased during vigorous activity?

**8** Inhaled air contains about 21 % oxygen. What is the approximate percentage

concentration of oxygen in exhaled air?

**9** Which of the terms (i) vital capacity, (ii) tidal volume, (iii) residual air, could reasonably apply to each of the volumes given below?

 (a) 500 cm3, (b) 5000 cm3, (c) 1000 cm3.

**10** State four characteristics of an efficient respiratory surface.

**11** What process causes oxygen to pass from the alveoli into the lung capillaries?

**12** Which of the following diseases are unlikely to be caused by smoking: (a) lung cancer,

(b) tuberculosis, (c) bronchitis, (d) colds, (e) heart attacks?