

D. Color

Optic nerve

9. The conductive system of the ear consists of
 - A. The Eardrum and the Ossicles
 - B. The semicircular canals and Otoliths
 - C. Cochlea and the Eustachian tube
 - D. Ossicles and the Pina

10. Carbon monoxide, a product of incomplete combustion is toxic because
 - A. It prevents the absorption of nutrients and the production of energy
 - B. It is colorless, odorless, has no smell and is light
 - C. It is better in attracting and combining with haemoglobin as compared to oxygen
 - D. It disturbs gaseous diffusion at the alveoli capillary membrane

11. The part of the eye that achieves most focusing is
 - A. The cornea
 - B. The Lens
 - C. The Iris
 - D. The Fovea

12. On the retina of the eye the rods cells are
 - A. Used primarily during daylight
 - B. Highly sensitive to color changes
 - C. Sensitive to much lower light levels than cone cells
 - D. Concentrated in the area of the fovea

13. What is decompression sickness
 - A. A frequent disorder in commercial aviation due to pressurization of aircraft
 - B. A disorder which is only encountered below 18,000ft
 - C. The formation of bubbles in the body tissue with no consequences.
 - D. A sickness resulting from a cabin pressure loss at high altitude

14. The factor which most increase the risk of coronary heart disease is
 - A. Hypertension and hyperventilation
 - B. Amount of fat in the diet
 - C. Family history
 - D. Lack of exercise and obesity

15. The vestibular apparatus consists of the following
 - A. Otoliths and the auditory nerve
 - B. Eustachian tube and the semicircular canals
 - C. Eustachian tube and the ossicles
 - D. Semicircular canals and the otoliths

16. What is the percentage of oxygen in the atmosphere at 35000ft

- A. 25%
- B. 21%
- C. 32%
- D. Approximately 30%

17. The ossicles are situated in

- A. The inner ear
- B. Middle ear
- C. Outer ear
- D. Semicircular canals

18. Which data compose the ICAO standard atmosphere?

- 1. Air Density
 - 2. Pressure
 - 3. Humidity and water
 - 4. Temperature
- A. 3, 4
 - B. 1,2,3
 - C. 1,2,4
 - D. 2,3,4

19. Where is the "Blind spot"

- A. On the iris behind the pupil
- B. On the edge of the lens near the ossicles
- C. On the fovea and the central vision
- D. On the entrance to the optic nerve

20. Which of the following statement(s) is /are correct

- 1. The retina has rods on its peripheral and cones on its central zone
 - 2. The retina has cones and the crystalline lens has rods
 - 3. The rods allow for night vision
 - 4. The cones are located on the peripheral zone of the retina
- A. 2, 3
 - B. 4
 - C. 1, 3
 - D. 1

21. The best method for losing weight is

- A. The use of appetite suppressants and avoid food
- B. Take plenty of exercise and take more sugar
- C. To go on a crash diet and to avoid breakfast
- D. To eat less balanced diet

22. The normal range of blood pressure is

- A. Systolic 120 mm Hg and Diastolic 80 mm Hg

- B. Systolic 80 mm Hg and Diastolic 120 mm Hg
- C. Systolic 120 mm Hg and Diastolic 120 mm Hg
- D. Systolic 80 mm Hg and Diastolic 80 mm Hg

23. Which of the following decompression sickness symptom matches with where they affect?

- 1. Chocks A Skin
- 2. Staggers B Respiratory system
- 3. Creeps C Joints
- 4. Bends D Brain

- A. 1 - D
- B. 2 - C
- C. 3 - A
- D. 4 - B

24. The parts of the eye responsible for vision in situations of high light levels

- A. Are the cornea and the iris
- B. Are the cones located at the center of the fovea
- C. Are the rods and the pupil
- D. Are rods and cones

25. In flight, if someone shows signs of hyperventilation, muscular impairment, visual sensory loss and tingling he might be suffering from

- A. Barotrauma
- B. Hypoxic hypoxia
- C. Decompression sickness
- D. Hyperventilation

26. Referring to the Body Mass Index (BMI) a man weighs 81 kg and is 1.75 m tall, he would be

- A. Considered to be within the normal weight range
- B. Considered to be overweight
- C. Considered to be obese
- D. Considered to be underweight

27. The pulse rate is controlled by

- A. Exercise Obesity carbon dioxide
- B. Temperature Altitude exercise
- C. Altitude Fear oxygen
- D. Anger exercise personal health

28. Which of the following can cause hypoxia?

- 1. Ascent to altitudes of over 10,000ft
- 2. Failure of oxygen systems in the aircraft cabin
- 3. Rapid decompression above 10,000ft

- A. All 3

- B. 1 and 2
- C. 2 and 3
- D. 1 and 3

29. Concerning the atmosphere which of the following is not true

- A. The mixture of the gases of the atmosphere remains constant at all altitudes
- B. The gases cover the earth up to 30,000 ft at the poles and 60,000 ft at the equator.
- C. Within the atmosphere there is a decline in temperature of $1.98^{\circ}\text{C} / 1000\text{ft}$
- D. In the atmosphere pressure increases with altitude

30. Noise induced hearing loss can be caused by.

- A. Lack of sound conducting systems
- B. Displaced ossicles and blocked Eustachian tube
- C. Presbycusis (effects of aging)
- D. Subjecting the ear systems to abnormally high noise for long periods

31. What is one of the initial indications of hypoxia?

- A. Blue tinge in the lips
- B. Stomach cramps
- C. Pain in the joints
- D. Impaired judgment

32. Peripheral vision is a function of the

- A. Rods
- B. Rods and cones
- C. Cones
- D. Fovea

33. The Time of Useful Consciousness (TUC) is depended upon

1. Rate of decompression
2. Altitude of the occurrence
3. Type of aircraft
4. Activity of the person
5. Personal health

- A. 1, 2 and 3 only are correct
- B. All the above are correct
- C. All are correct except 3 which is incorrect
- D. 2, 3 and 5 only are correct

34. Dark adaption takes about for the Rods and..... for the Cones

- A. 30 minutes 7 minutes
- B. 7 minutes 30 minutes
- C. 15 minutes 20 minutes
- D. 25 minutes 45 minutes

35. Where in the ear do you find the otoliths, vestibular apparatus, and the semi- circular canals
- Outer ear
 - Inner ear
 - Middle ear
 - Eustachian tube
36. Accommodation of the eye is controlled by
- Auxiliary muscles
 - Iris
 - Lens
 - Cornea
37. Symptoms of hyperventilation are caused by
- Shortage of oxygen and carbon dioxide in the blood
 - Surplus of carbon dioxide in the blood
 - Surplus of oxygen and carbon dioxide in the blood
 - Shortage of carbon dioxide in the blood
38. In a commercial aircraft cabin pressure is normally maintained at
- Sea level
 - 6,000 ft to 8,000 ft
 - 10,000 ft to 12,000 ft
 - Below 5,000 ft
39. After a rapid decompression at an altitude of 30,000ft the first action of the pilot would be
- Prevent panic of the passengers
 - Maintaining the aircraft control and preventing hypoxia
 - Inform air traffic control unit
 - Inform other cabin crew
40. Cataracts, an eye defect is associated with
- The Retina
 - The Pupil
 - The Iris
 - The Lens
41. Hypermetropia (long sightedness) is caused by aeyeball and treated by alens whereas Myopia (Short sightedness) is caused by aeyeball and treated with alens
- Lengthened convex shortened concave
 - Shortened concave Lengthened convex
 - Lengthened concave shortened convex
 - Shortened convex Lengthened concave

42. The red blood cells are produced in the body by
- The bone marrow
 - The spleen when triggered by hormones
 - The liver and pancreas
 - The liver and the spleen
43. How much exercise is sufficient to reduce weight and the risk of coronary diseases
- Regular and raise the pulse rate by 100% for at least 20 minutes 2 times a week
 - Raise the pulse rate by 100% for at least 20 minutes 3 times a week
 - Raise the pulse rate by 100% for at least 30 minutes 3 times a week
 - Regular and raise the pulse rate by 100% for at least 20 minutes 3 times a week
44. Which of the following factors decrease resistance to DCS?
- Body height
 - Scuba diving
 - Obesity
 - Age
- 1, 2 and 4
 - 3 and 4
 - 1, 2 and 3
 - 2, 3 and 4
45. The most common cause of inflight incapacitation is
- Motion sickness
 - Disorientation
 - Gastro- enteritis
 - D. Common cold**
46. Glaucoma is a disease which is caused by:
- Color blindness due to oblong shaped lens
 - High pressure of the liquid of the eye
 - Cataracts and Presbyopia
 - Double vision and tunnel vision
47. Oxygen is required by the human body to
- Clear the blood of impurities produced in the body
 - Derive energy from food through oxidization
 - Produce carbon dioxide to maintain correct blood acidity
 - To convert fats and proteins

48. A man is considered obese if his BMI isand a woman is considered underweight if her BMI is

- A. Over 29 and under 19
- B. 30 over and under 20
- C. 29 over and under 18
- D. Over 30 and under 19

49. Hyperventilation

- A. Is unlikely below 2000ft
- B. Is likely to result in death if not corrected
- C. may be caused by having too little carbon dioxide in the blood
- D. can result from an inadequate blood

50. The major factor which predisposes an individual to heart attack is

- A. Smoking
- B. Family history
- C. The amount of saturated fats in diet
- D. Hypertension

PART 2

Answer all questions

1. (a) Define hypoxia and list **six** major signs and symptoms **8 marks**
(a) Explain what action would be taken to deal with hypoxia in flight **8 marks**
2. (a) The human ear performs three functions in the body. Name them. **3 marks**
(b) What is conductive deafness and what might cause it **4 marks**
3. (a) Mention the parts of an eye that enables it to achieve focus and explain how each of them achieves focus **8 marks**
(b) Explain what causes (hypermetropia) long sightedness and (myopia) short sightedness in the human eye **8 marks**
4. (a) Explain the main differences between the long term memory and the short term memory **5 marks**
(b) State how the capacity of the short term memory can be increased **6 marks**