1. What is Homeostasis?
The maintenance of stable/constant internal environment despite changing external environment

What is another term for Homeostasis?
- Dynamic Equilibrium
- Active Balancing
2. What is Thermoregulation?

Temperature balance
- Too hot: Sweat
- Too cold: Shiver

3. How does blood sugar level demonstrate feedback?

Message is sent to the
• Pancreas → insulin produced → lower sugar level → pancreas stops insulin production → homeostasis maintained...

to return something back to its set point
4. Give examples of negative feedback in the human body

- Too hot – sweat
- Too cold – shiver
- Too much sugar – insulin
- Too little sugar – glucagon
5. How do plants maintain water balance and carry out gas exchange? Through the guard cells and stoma
6. Construct a graph demonstration blood sugar level and homeostasis.
7. How is homeostasis related to disease?

Disease is the **failure** of homeostosis

8. Describe the 5 factors that cause disease

- Genetic
- Pollution
- Organ malfunction
- Harmful Lifestyle
- Disease—non infectious & infections (pathogen)
9. What are microorganisms & how do they enter the body?

- Microscopic organisms

Enter the body through an opening

- Cut
- Nose
- Mouth

... mucus membrane
10. What is a pathogen?

Disease Causing Microorganism

- Bacteria
- Fungus
- Viruses
11. Identify 3 ways in which WBC work

1. Engulf
   *phagocytes* - non specific

2. Recognize
   identify antigens – specific – B cells

3. Produce
   antibodies against antigens – specific - T cells
12. What change in the human body might cause a WBC to increase in number and release antibodies?

Invasion of a pathogen causing infection
13. Explain the difference between active immunity & passive immunity

- Active: self made, longer lasting
- Passive: made by others, shorter lasting
14. What is AIDS and how does it effect the immune system?

- Acquired Immune Deficiency Syndrome
- Invades the WBC that recognizes & identifies antigens
- Leaving no defenses against pathogens
15. Compare and contrast AIDS & SCIDS
   • AIDS is acquired
   • SCIDS is genetic

16. What is an allergic reaction?
   • inflammatory response to a foreign substance

17. What are histamines?
   • Fluids containing WBC flood into problem area
18. What are auto immune disease?
   - Attack normal body tissue
   - Examples: Rheumatoid Arthritis, Lupus

19. What is the danger associated with organ transplant?
   - New organs will be recognized as foreign and attacked
20. What is your body’s first line of defense?

**Barriers**
- Physical (skin)
- Chemical (tears and mucus)

**Other 2 defenses...**
- a. Inflammatory
- b. Immune Response
21. Identify 3 ways in which disease can be prevented

• Wash hands
• Healthy life style
• Barriers

22. What is cancer?

• uncontrolled cell division
• near by cells are starved of blood and nutrients
23. Explain the difference between an benign growth and a malignant growth

- **Benign** - causing no damage
- **Malignant growth** that has spread through the blood & lymph system
24. What are antibodies?
   • WBC
   • The bodies defense against invasion

How do they work?
   • Recognize
   • Engulf
   • produce
25. Explain the difference between antibodies & antibiotics

- Antibodies - WBC that engulf
- Antibiotics - Medical chemicals that kill bacteria
26. What are the content of a vaccine?

• A weaken or a dead portion of the microbe

How does it protect the body from disease?

• Triggers body to recognize & produce WBC

What are they important for school children?

• Prevent spread of disease
27. When a person receives a vaccine, where do the antibodies come from?
   - Another organism that made them

28. Explain why the antibodies for chicken pox not work on the measles?
   - The chicken WBC will not recognize the measles virus
29. Put in correct order:
Cure Treatment Diagnosis Prevention
• Diagnosis
• Treatment
• Cure
• Prevention

30. What do hormones, antibodies, and enzymes all have in common?
THEY ARE PROTEINS WITH SPECIFIC SHAPE
31. What is an antigen?
   - TRIGGERS WBC PRODUCTION
   - ANTIBODY GENERATOR

32. What is a parasite?
   - Lives in/on another organism (host)

   What does it do to its host?
   - USES IT FOR FOOD & SHELTER
33. Disease of inheritance.

- Sickle Cell anemia. Poor circulation, pain, failure to deliver oxygen and nutrients.
- Can be treated with transfusion

34. Disease of toxic substances.

- Emphysema. Inability to breathe normal, susceptible to respiratory infection.
- Stop smoking (don't even start)
35. Disease of poor nutrition.
- Atherosclerosis. Hardening of the arteries, restricting blood flow; Can lead to heart attacks
- Change in diet...low fat/cholesterol

36. Which body system is most affected by the vaccination?
- Immune system
What is the best way to prevent the failure of living environment???

STUDY