

PACE MEDICAL SOLUTIONS

HUMAN HEALTH & DISEASE

HEALTH

4. (b) Health continuum refers to an integrated system of health care that follows a patient through time or through a range of services.
5. (b) Humoralism is a system of medicine detailing the makeup & working of human body adopted by ancient Greek physicians & philosophers. According to this the four distinct body fluids in a person known as humors influence their temperament & health. The four humors of Hippocratic medicine are black bile, yellow bile, phlegm & blood.
7. (b) The ice berg model of health & disease says that illness and health are only the tip of an iceberg. To understand their causes, you must look below the surface.
8. (b) Every pathogen has its own preferred portal of entry some enter through G.I tract & other through mucous membrane of respiratory tract.

HUMAN DISEASES

10. (c) Endotoxins are the toxins produced by bacteria.
11. (b) Prodromal period refers to the time during which a disease process has begun but is not yet clinically manifested. Convalescence is the gradual recovery of health & strength after illness or injury.
14. (d) Hypertrichosis also called Ambras syndrome or werewolf syndrome is the abnormal amount of hair growth over the body. It is sex limited trait.

BACTERIAL INFECTIONS

7. (a) Mary Mallon, better known as typhoid Mary, was the first person in United States identified as an asymptomatic carrier of pathogen associated with typhoid fever. She was presumed to have infected 53 people, three of whom died over the course of her career as a cook.
8. (c) Reticuloendothelial system is also called mononuclear phagocytic system.
13. (d) Appendectomy is surgical removal of appendix.
19. (d) Antibiotics could not solve all problems of bacteria, mediated diseases because of development of mutant strains resistant to antibiotics.

VIRAL INFECTION

6. (d) Use of aspirin during dengue fever is not recommended owing to increased bleeding tendency. Aspirin has an antiplatelet effect by inhibiting the production of thromboxane which binds platelets together to create a patch over damaged vessels.

AIDS

2. (d) HIV attacks Helper-T cells (CD₄) their number goes down.
3. (d) HIV can be transmitted by sharing razor blades. It doesn't spread through hugging, kissing & use of public toilets.
7. (b) HIV damages helper T lymphocytes & these are important cells of immune system. These help plasma-B lymphocytes in production of antibodies.

9. (d) The time lag between infection & appearance of AIDS symptoms may vary from few months to many years.
14. ELISA (Enzyme linked Immunosorbent Assay) is the diagnostic test for HIV.
18. (d) Parenteral route refers to a route other than alimentary canal.
23. (b) HIV uses macrophages as a factory to produce more & more viral particles.
29. (d) HIV-2 has 8 known groups i.e. A to H. of these only group A & B are epidemic.

PROTOZOAL INFECTION:

7. (d) *P. falciparum* is most dangerous species. It causes cerebral malaria or black water fever.
14. (b) Sporozoite is the infective stage of *Plasmodium* & it is present in salivary glands of female *Anopheles* mosquito.

HELMINTH INFECTION

1. (a) *Ascaris* is most common intestinal parasitic of humans. It causes ascariasis & infection is more common in children.
2. (b) Infective stage of *Ascaris* is second stage rhabditiform larvae or embryonated egg.
10. (c) Gambusia or mosquito fish feeds on mosquito larvae. It is used in biological control of malaria as well as filaria.

CANCER BIOLOGY

8. (a) Seminoma is germ cell tumor of testis. Lymphoma is a group of blood cell tumors that develop from lymphocytes chondroma is a benign cartilaginous tumor which is encapsulated. Melanoma is a typed skin cancer.
20. (b) Diethylstilbestrol is a synthetic nonsteroidal estrogen.
21. (b) Oncogenes are cancer causing genes.
27. (c) Kangri cancer is a type of squamous cell carcinoma of skin. It is found only in Kashmir. It occurs on lower abdomen & inner thighs & is due to use of a kangri. It is a baked clay pot used as a source of warmth by people in Kashmir during cold weather.
29. (a) The Papanicolaou test (or pap test) or pap smear or cervical smear test is a method of cervical screening used to detect potentially precancerous & cancerous process in endocervical canal of female reproductive system.

ALCOHOLISM

34. (a) Delirium tremens or shaking frenzy is an acute episode of delirium that is usually caused by withdrawal from alcohol.

IMMUNE SYSTEM

2. (b) IgM is macroglobulin & it is included in specific defence mechanism.
3. (a) Neutrophils are micropoliceman of blood & monocytes are macropoliceman of blood.
9. (d) Thymus is training school for T-lymphocytes.
12. (d) Cytotoxic T cells produce perforins.
23. (c) Interferons are low molecular weight proteins produced by immune cells in response to viruses.
29. (c) IgA is secretory antibody & it is present in all body cells.

HINTS TO PREVIOUS YEARS QUESTIONS

54. (c) A HeLa cell is a cell type in an immortal cell line used in scientific research. It is the oldest and most commonly used human cell line. The line was derived from cervical cancer cells taken from Henrietta Lacks. Hence the name HeLa.
61. (b) The Interferon, IFN- α protein is produced by leukocytes. They are mainly involved in innate immune response against viral infection.
The Interferon, IFN- β proteins are produced in large quantities by fibroblasts. They have antiviral activity that is involved mainly in innate immune response. IFN- β 1 is used as a treatment for multiple sclerosis as it reduces the relapse rate.
76. (b) A prion is an infectious agent composed of protein in a misfolded form. The word prion, coined in 1982 by Stanley B. Prusiner, is derived from the words protein and infectious. All known prion diseases affect the structure of the brain or other neural tissue and all are currently untreatable and universally fatal. Prions are responsible for the transmissible spongiform encephalopathies in a variety of mammals, including bovine spongiform encephalopathy also known as "mad cow disease" In humans, prions cause Creutzfeldt-Jakob Disease (CJD), Gerstmann–Sträussler–Scheinker syndrome, Fatal Familial Insomnia and Kuru.
81. (c) Chagas disease or American trypanosomiasis, is a tropical parasitic disease caused by the flagellate protozoan *Trypanosoma cruzi*. *T. cruzi* is commonly transmitted to humans and other mammals by an insect vector, the blood-sucking "kissing bugs" of the subfamily Triatominae (family Reduviidae), most commonly from species belonging to the *Triatoma*, *Rhodnius*.
82. (d) *Emilia sonchifolia* is one of the ten sacred flowers of Kerala (Dasapushpam)
100. (c) "Maurer's dots" are faint, comma-shaped, red dots seen on the red cell surface infected with *Plasmodium falciparum*.
118. (b) The commonest parasite causing haematuria in man is Schistosomiasis, a trematode. Cercariae are the larval form of the parasite liberated from the snail (intermediate host)
The stages of life cycle of trematodes, in general, are
(i) Egg – discharged either in open water or in intestine of definitive host.
(ii) Miracidium (plural Miracidia) – free-living motile form, covered with cilia
(iii) Sporocyst – an elongated sac that produces either rediae or more sporocysts.
(iv) Redia (plural rediae) – a larval form with an oral sucker, it will produce either more rediae, or cercariae.
(v) Cercaria (plural cercariae) – the larval form of the parasite, developed within the germinal cells of the sporocyst or redia. A cercaria has a tapering head with large penetration glands.
(vi) Adult – the fully developed mature stage, capable of sexual reproduction.
120. (d) Peter Borovsky, a Russian military surgeon working in Tashkent, conducted research into the etiology of oriental sore, today known as cutaneous Leishmaniasis. Oriental sore or cutaneous Leishmaniasis caused by a protozoan *Leishmania donovani*
122. (b) Trachoma is an infectious disease caused by the *Chlamydia trachomatis* bacterium which produces a characteristic roughening of the inner surface of the eyelids. Also called granular conjunctivitis.
142. (b) Vector Control Research Centre in India is situated in Pondicherry.
163. (d) Bombykol is a pheromone released by silkworm moth to attract mates. It was discovered by Adolf Butenandt and was the first hormone to be synthesized chemically.

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178. (d) Ginseng (*Panax*) are 11 species of slow-growing perennial plants with fleshy roots. Ginseng comes from Chinese ren-shen which means roots like the legs of a person. It is a traditional Chinese herb used as a stimulant, as a cure for sexual dysfunction in men and also in treatment of diabetes.
184. (c) *Wuchereria bancrofti* is a round worm belonging to Phylum Aschelminthes. It is Digenetic because it completes its life cycle in two hosts- humans and *Culex* mosquito. It has separate sexes. And hence it is dimorphic. Phylum Aschlminthes has a pseudocoelom.