

Answer Key for Question Paper (A):

- 1) Which of the following technique is considered as “environmental friendly” to clean up organic pollutants and toxic waste:
C) Bioremediation.
- 2) One of the major role for normal flora is:
B) Synthesis of vitamins B and K.
- 3) Which of the following expression demonstrates the correct nomenclature of the microorganism:
A) *Escherichia coli*
- 4) Which of the following microorganism can be used to treat sewage via flocculation and grazing:
B) Protozoa
- 5) Which of the following parasites is a major concern with regards to safe drinking water:
D) *Giardia lamblia*
- 6) Which of the following parasitic oocyst survives chlorine disinfection:
B) *Cryptosporidium parvum*
- 7) A patient was suffering from: diarrhoea, abdominal pain, nausea and intestinal blockage. He has eaten a sandwich of beef-burger from one of the poor hygiene restaurants. The patient is more likely to be infected with:
C) *Taenia saginata*
- 8) 12 years old child was diagnosed with amoebic dysentery after drinking contaminated water from one of the rural area of the Kingdom. The child was infected with:
C) *Entamoeba histolytica*
- 9) Tertiary treatment of wastewater is required to fully removed which of the following parasites:
A) *Giardia lamblia*
- 10) The primary cause of pneumonitis or Loeffler’s syndrome is:
B) *Ascaris lumbricoides*.

- 11) 8 years old child was diagnosed with iron deficiency anemia after he was playing in humid, muddy and warm soil. The child is infected with:
- C) *Necator americanus*.
- 12) Which of the following diseases can be caused from the import of contaminated food such as raspberries, lettuce and basil:
- A) Cyclosporiasis.
- 13) A patient was admitted to the hospital after he was diagnosed with the symptoms of Katayama fever, dermatitis, and skin rash. The skin rash appeared after he was swimming in a fresh water lake. He was likely to be infected with:
- B) *Schistosoma mansoni*.
- 14) Which of the following diseases present a major hazard to travellers to warm climate countries:
- C) Malaria
- 15) The significant environmental source for the oocyst of *Toxoplasma gondii* is:
- B) Cats.
- 16) Viruses attach to the target cells via receptors which found on:
- C) Viral capsid.
- 17) You have been selected to work as an environmental scientist in food factory. You have used UV light as a disinfection technique to sterile some food products. Which of the following microorganism will be resistance to the UV light:
- D) *Adenoviruses type 40*.
- 18) The entire lytic cycle is completed in
- A) > 20 minutes.
- 19) A source of drinking water has been contaminated with sewage water. What viruses do expect to be there:
- B) Enteroviruses and Coxsackie viruses.
- 20) You have been appointed a role of environmental specialist at the infectious control unit in one of the Kingdom hospitals. Which of the following viruses are expected there:
- C) HBV and HCV

- 21) Contamination of objects in the environment play a crucial role in the transmission of:
A) Rhinoviruses.
- 22) Which of the following disinfection method is used to inactivate RSV:
C) Organic solvent and detergents.
- 23) You been asked to write a report about outbreak in drinking water, which of the following microorganism can be the primary cause:
B)*Giardia lamblia* and Astroviruses.
- 24) The following virus is the most important respiratory pathogen during infancy and early childhood:
D) RSV.
- 25) Which of the following viruses are transmitted by percutaneous routes and exchange of blood or secretions:
C) HCV, HDV and HBV.
- 26) Influenza viruses are:
A)ssRNA.
- 27) Which of the following viruses are transmitted via fecal-oral route:
C) HAV, HEV and Enteroviruses.
- 28) Which of the following microorganisms lack peptidoglycan:
A) *Methanobacterium*.
- 29) The formation of oogonia and antheridia is one of the sexual reproduction in:
B) Algae.
- 30)Which of the following structure helps bacterial attachment to various surfaces:
D) Glycocalyx.
- 31)Geosmin is produced by:
C) *Anabaena*.
- 32) Prokaryotic ribosomes are called:
B)70S.
- 33) Plate count method is used to enumerate:
A) Bacteria and Algae..

- 34) Which of the following molecules serves as sites for storage and synthesis of starch:
B) Pyrenoids.
- 35) The optimal temperatures and pH for *Cyanobacterial* blooms are:
B) 15-30°C and pH 6-9.
- 36) The type of medium used to isolate microbes which metabolise phenol from soil sample is:
C) Enrichment medium.
- 37) Blod's Basa medium is:
C) Enrichment medium.
- 38) Ciguatera is a disease caused by toxin produced by:
B) *Gambierdiscus toxicus*.
- 39) You would like to use a bacterial culture as bio-degraders to perform a bioremediation process. To which of the following phases would you grow your culture to obtain active organisms (1 Mark):
A) Exponential phase.
- 40) The addition of penicillin and streptomycin to a culture medium will:
D) Suppress the growth of both bacteria and fungi.
- 41) Which of the following microorganisms can not be Gram-stained:
B) *Sulfolobus*.
- 42) Mycorrhizae is:
B) A symbiotic relationship between fungi and plants.
- 43) An example of fission yeast is:
A) *Schizosaccharomyces*.
- 44) Which of the following ribosomes are found in eukaryotic cells:
B) 40S.
- 45) Which of the following disinfectants can be used to sterilise environmental floors and walls:
C) Phenolics and hypochlorite.
- 46) *Lactobacilli* are:
D) Aerotolerant.
- 47) *Streptococcus pyogenes* grow better on:
C) Blood agar.

48) Most of common spoilage and medically important bacteria are:

A) *Mesophiles*

49) Bacterial flora in the colon are:

B)Obligate anaerobes.

50) *Staphylococcus aureus* grows better in:

D)Mannitol salt agar.