

## FINAL ANSWER KEY

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Question1:-Electron microscope was invented by

- A:-Antonie van Leeuwenhoek
- B:-Ernst Ruska
- C:-Peyton Rous
- D:-Stanley Prusiner

Correct Answer:- Option-B

Question2:-Which of the following transport mechanisms in bacteria functions without energy requirement?

- A:-Symport
- B:-Group translocation
- C:-Facilitated diffusion
- D:-Ion-coupled transport

Correct Answer:- Option-C

Question3:-The process by which microorganisms form ATP during glucose fermentation is characterised by

- A:-Anaerobic respiration
- B:-Denitrification
- C:-Oxidative phosphorylation
- D:-Substrate level phosphorylation

Correct Answer:- Option-D

Question4:-Spore formation occurs at \_\_\_\_\_ phase of bacterial growth.

- A:-Lag
- B:-Log
- C:-Declining
- D:-Stationary

Correct Answer:- Option-D

Question5:-Protoplasts are related to

- A:-Gram positive bacteria
- B:-Gram negative bacteria
- C:-Acid fast bacteria
- D:-Pleomorphic bacteria

Correct Answer:- Option-A

Question6:-Which among the following is NOT an airborne infection?

- A:-Chickenpox
- B:-Diphtheria
- C:-Measles
- D:-Tuberculosis

Correct Answer:- Option-B

Question7:-Essential requirement for laboratory containment level-2 include

- A:-Biohazard sign
- B:-HEPA filter
- C:-Class 1 microbiological safety cabinet
- D:-Class 3 microbiological safety cabinet

Correct Answer:-**Question Cancelled**

Question8:-Which of the following statement is TRUE about VITEK2 system?

- A:-Identify bacteria and yeasts
- B:-Analyse ribosomal protein
- C:-Turnaround time is 1-2 hours
- D:-Unable to detect antibiotic susceptibility

Correct Answer:- Option-A

Question9:-How many pairs of amplification primers are used in nested PCR?

- A:-One
- B:-Two
- C:-Three
- D:-Four

Correct Answer:- Option-B

Question10:-Which of the following is used for sterilization of dental equipments?

- A:-Ethylene oxide
- B:-Gluteraldehyde
- C:-Ethyl alcohol
- D:-Hypochlorite

Correct Answer:- Option-A

Question11:-Which bacterial spores are used as sterilisation controls in autoclave?

- A:-Bacillus subtilis
- B:-Clostridium tetani
- C:-Geobacillus stearothermophilus
- D:-Bacillus cereus

Correct Answer:- Option-C

Question12:-Northern blotting is used for separation of

- A:-DNA
- B:-RNA
- C:-Proteins
- D:-Toxins

Correct Answer:- Option-B

Question13:-Resistance transfer factor can be transferred from one bacterium to another by

- A:-Transformation
- B:-Transduction
- C:-Conjugation
- D:-Lysogenic conversion

Correct Answer:- Option-C

Question14:-Chemical nature of exotoxins is

- A:-Lipopolysaccharide
- B:-Muramic acid
- C:-Oligosaccharide
- D:-Protein

Correct Answer:- Option-D

Question15:-Two year old child with recurrent bacterial infections causing otitis media and pneumonia is most likely deficient in

- A:-B cells
- B:-T cells
- C:-Phagocytes
- D:-C1 esterase inhibitor

Correct Answer:- Option-A

Question16:-NK cells express a killer immunoglobulin like receptor which recognises

- A:-MHC Class 1 molecules

- B:-MHC Class II molecules
- C:-Cell adhesion molecules
- D:-CD40 molecules

Correct Answer:- Option-A

Question17:-Which of the following best describes the mechanism of action of diphtheria toxin?

- A:-Degrades lecithin in cell membranes
- B:-Release tumour necrosis factor
- C:-Increase adenylate cyclase activity
- D:-Inhibit elongation factor 2

Correct Answer:- Option-D

Question18:-Methods to recognise mutations include the following EXCEPT

- A:-Gene sequencing
- B:-Fluctuation test
- C:-Replica plating method
- D:-Capacity test

Correct Answer:- Option-D

Question19:-Choose the WRONG statement regards nude mice

- A:-Lack cell mediated immune response
- B:-Has limited population of T cells that increases with age
- C:-Unable to made antibodies to most antigens
- D:-Characterised by absence of ear lobe and thyroid

Correct Answer:- Option-D

Question20:-Genes that regulate programmed cell death is

- A:-bcl-2
- B:-src
- C:-myc
- D:-p53

Correct Answer:- Option-A

Question21:-Example for a subunit vaccine is

- A:-Cholera
- B:-Hepatitis B
- C:-Measles
- D:-Rota virus

Correct Answer:- Option-B

Question22:-Which is the last component of personal protective equipment to be doffed after leaving the patient room?

- A:-Gloves
- B:-Gown
- C:-Respirator
- D:-Shoe covers

Correct Answer:- Option-C

Question23:-Needles are disposed in \_\_\_\_\_ coloured containers after use.

- A:-Blue
- B:-Red
- C:-Yellow
- D:-White

Correct Answer:- Option-D

Question24:-The recommended concentration of glutaraldehyde for disinfection of cystoscopes

- A:-1%
- B:-2%
- C:-10%

D:-20%

Correct Answer:- Option-B

Question25:-Method used for qualitative evaluation of air in operation theatre include all EXCEPT

A:-Particle count

B:-Slit sampler

C:-Settle plate

D:-Membrane filtration

Correct Answer:-Question Cancelled

Question26:-A 26-year-old male presents to the hospital with fever, rash, headache and bodyache ten days after a camping trip in the Himalayas. Physical examination shows generalized lymphadenopathy and a maculopapular rash on the thorax and extremities. Vital signs are as follows : blood pressure 105/76 mmHg, pulse 102/min, respiratory rate 22/min, and temperature 39.4 C (102.9 F). What is the primary site of proliferation of the most likely causative organism?

- i. Parenchymal cells of the liver
- ii. Endothelial cells of small vessels
- iii. Media of arteries
- iv. Endothelial cells of large vessels

A:-Only (ii) and (iv)

B:-Only (ii)

C:-Only (ii, iii, iv)

D:-All of the above (i, ii, iii, iv)

Correct Answer:- Option-B

Question27:-Which one of the following clinical manifestations of Lyme's disease is linked to the expression of HLA-DR4 or HLA-DR2?

A:-Erythema chronicum migrans

B:-Acrodermatitis chronica atrophicans

C:-Chronic destructive arthritis

D:-Garin-Bujadoux-Bannwarth syndrome

Correct Answer:- Option-C

Question28:-Which is a reason for antimicrobial resistance being higher in a biofilm than in free-floating bacterial cells?

A:-The extracellular polymeric substances allow faster diffusion of chemicals in the biofilm

B:-Cells are more metabolically active at the base of a biofilm

C:-Cells are metabolically inactive at the base of a biofilm

D:-The structure of a biofilm favours the survival of antibiotic resistant cells

Correct Answer:- Option-C

Question29:-Which of the following statement about penicillin-binding proteins is/are TRUE :

- i. PBP is located in outer cell wall
- ii. PBP is essential for cell wall synthesis
- iii. PBP acts as carboxypeptidase and transpeptidase
- iv. Alteration in PBP is basis of MRSA

A:-Only (i, ii, iii)

B:-Only (ii, iii, iv)

C:-Only (ii, iii)

D:-All of the above (i, ii, iii, iv)

Correct Answer:- Option-B

Question30:-Which of the following statements regarding the hyaluronic acid capsule of *S.pyogenes* are True :

- i. It is responsible for the mucoid appearance of the colonies in vitro
- ii. It is anti-phagocytic
- iii. It binds to CD44 on human epithelial cells
- iv. Streptolysin-O is structurally and functionally similar to tetanospasmin of *Clostridium tetani*

A:-Only (i and ii)

B:-Only (ii and iii)

C:-Only (ii, iii and iv)

D:-Only (i, ii, iii)

Correct Answer:- Option-D

Question31:-Which statement is true about the Nucleic Acid Amplification Tests used for the direct detection of *Neisseria gonorrhoeae* in the genitourinary specimens?

A:-The test has low sensitivity and specificity in symptomatic and high prevalence populations

B:-The test has equal sensitivity and specificity as *Neisseria gonorrhoeae* in symptomatic and high prevalence populations

C:-The test has high sensitivity and specificity in symptomatic and high prevalence populations

D:-The test has high sensitivity and low specificity in symptomatic and high prevalence populations

Correct Answer:- Option-C

Question32:-A chest physician performance bronchoscopy in the procedure room of the outpatient department. To make the instrument safe for use in the next patient waiting outside, the most appropriate method to disinfect the endoscope is by

- A:-2% glutaraldehyde for 10 min
- B:-2% glutaraldehyde for 20 min
- C:-1% sodium hypochlorite for 10 min
- D:-1% sodium hypochlorite for 20 min

Correct Answer:- Option-B

Question33:-Which of the following statements is/are False regarding Chlamydia trachomatis?

- i. Reticulate body divides by binary fission
- ii. Inside the cell it evades phagolysosome
- iii. Elementary body is metabolically active
- iv. It is biphasic

- A:-Only (i and iv)
- B:-Only (i and ii)
- C:-Only (iii)
- D:-Only (ii, iv)

Correct Answer:- Option-C

Question34:-A 40-year-old female presented with purulent exudate through the left auditory duct and pain in the left ear region, which intensified during mastication. After collection of the pus from the left ear lesion, amoxicillin-clavulanic acid for seven days was prescribed for a presumed diagnosis of acute otitis. Culture grew *Vibrio* spp. What would be the most likely causative organism?

- A:-*V. alginolyticus*
- B:-*V. fluvialis*
- C:-*V. parahaemolyticus*
- D:-*V. vulnificus*

Correct Answer:- Option-A

Question35:-What is the source of Eco RI?

- A:-*Escherichia coli* R 1
- B:-*Escherichia coli* R I 13
- C:-*Escherichia coli* R Y 13
- D:-*Escherichia coli* R X 13

Correct Answer:- Option-C

Question36:-A 40-year-old man is suffering from multiple episodes of disseminated gonococcal infection for the last few years. Cultures of his urethra and knee fluid yield *Neisseria gonorrhoeae*.

What is the most likely cause for this infection?

- A:-A polymorphonuclear cell chemotactic factor
- B:-Absent lymphocyte adenosine deaminase activity
- C:-Myeloperoxidase deficiency
- D:-Deficiency of a late-acting complement component C5, C6, C7 or C8

Correct Answer:- Option-D

Question37:-Plasmids confer phenotypes to the host organism, some of the plasmids to which these phenotypic traits have not yet been ascribed are called \_\_\_\_\_

- A:-Unique plasmids
- B:-Resistance plasmid
- C:-Q-plasmids
- D:-Cryptic plasmids

Correct Answer:- Option-D

Question38:-In patients with pseudomembranous colitis, direct visualization by colonoscopy or sigmoidoscopy will detect pseudomembranes in \_\_\_\_\_

- A:-2% to 3% of cases
- B:-51% to 55% of cases
- C:-60% to 65% of cases
- D:-90% to 95% of cases

Correct Answer:- Option-B

Question39:-A 27 year-old woman in her 30th week of pregnancy presents with premature labour. She reports a recent history of a mild influenza-like illness characterized by a low-grade fever, headache, vomiting, abdominal pain, and cramps in lower back. Prior to this illness, her pregnancy was uncomplicated. In this case, which one of the following organisms is most likely to be responsible for premature labour and fetal distress?

- A:-Brucella abortus
  - B:-Erysipelothrix rhusiopathiae
  - C:-Listeria monocytogenes
  - D:-Streptobacillus moniliformis
- Correct Answer:- Option-C

Question40:-Clarithromycin and erythromycin have very similar spectra of antimicrobial activity. The major advantage of clarithromycin is that it

- A:-Does not inhibit hepatic drug-metabolizing enzymes
  - B:-Has greater activity against M avium-intracellulare complex
  - C:-Eradicates Mycoplasmal infections in a single dose
  - D:-Is active against methicillin-resistant strains of staphylococci
- Correct Answer:- Option-B

Question41:-Which of the following types of drug-resistant bacteria do not typically persist in individuals as a member of their intestinal microbiota?

- A:-MRSA
  - B:-VRE
  - C:-CRE
  - D:-ESBL-producing bacteria
- Correct Answer:- Option-A

Question42:-Which clinical situation would be appropriate for treatment with a narrow-spectrum antimicrobial drug?

- A:-Treatment of a polymicrobial mixed infection in the intestines
  - B:-Prophylaxis against infection after a surgical procedure
  - C:-Treatment of throat infection caused by Streptococcus pyogenes
  - D:-Empiric therapy of pneumonia while waiting for culture results
- Correct Answer:- Option-C

Question43:-Which of the following bacteria is a small, capnophilic, gram-negative, oxidase-positive bacillus that can be isolated from human bite infections?

- A:-Eikenella corrodens
  - B:-Moraxella spp.
  - C:-Proteus vulgaris
  - D:-Burkholderia mallei
- Correct Answer:- Option-A

Question44:-An 18-year-old high school student develops fever, cough, and chest pain. The cough associated with weight loss persisted. Lymph node biopsies stained with H and E reveal granulomatous inflammation and macrophages engorged with oval structures measuring 2-4  $\mu\text{m}$ . Cultures incubated at room temperature grow powdery white colonies, which on microscopic study have tuberculate spores. The high school student most likely acquired the infection from which of the following?

- A:-Contaminated food
  - B:-Cat faeces
  - C:-Contaminated drinking water
  - D:-Soil enriched with bird excrement
- Correct Answer:- Option-D

Question45:-The fungi trichosporon commonly causes superficial infection of hair also called white piedra. Which of the following species of Trichosporon commonly causes scalp hair white piedra?

- i. T. ovoides
- ii. T. asteroides
- iii. T. asahii
- iv. T. coremiiforme

- A:-Only (i)
  - B:-Only (i and ii)
  - C:-Only (iii)
  - D:-Only (iii, iv)
- Correct Answer:- Option-A

Question46:-A 50 year old man suffered a burn injury in the right arm, after a few days he developed blisters and ulcers around the burnt area. During the routine examination, redness and swelling around the infected area were observed. Fungal infection was suspected and biopsy was done, direct microscopic examination showed thick, branched non-septate hyphae with a black round tip. In culture, cottony colonies can be observed after a few hours of incubation Name the possible pathogen responsible for the infection?

- A:-Pneumocystis jirovecii
- B:-Rhizopus oryzae
- C:-Coccidioides immitis

D:-Aspergillus flavus

Correct Answer:- Option-B

Question47:-All of the following are common pathogens that are naturally found in soil, Except?

A:-Candida albicans

B:-Coccidioides immitis

C:-Sporothrix schenckii

D:-Cryptococcus neoformans

Correct Answer:- Option-A

Question48:-A patient who is resident of Himachal Pradesh presented with a series of ulcers in a row, on his right leg. The biopsy from the affected area was taken and cultured on Sabouraud's Dextrose agar. What would be the most likely causative organism?

A:-Cladosporium spp.

B:-Nocardia brasiliensis

C:-Pseudallescheria boydii

D:-Sporothrix schenckii

Correct Answer:- Option-D

Question49:-Which of the following statement is/are TRUE regarding Miconazole?

- i. Miconazole is a broad-spectrum azole antifungal agent.
- ii. The primary mechanism of action is through inhibition of the CYP450 14 $\alpha$ -lanosterol demethylase enzyme
- iii. Miconazole is metabolized in the liver and does not give rise to any active metabolites.
- iv. Miconazole is indicated for the local treatment of oropharyngeal candidiasis in adult patients.

A:-Only (i and ii)

B:-Only (ii and iii)

C:-Only (iii and iv)

D:-All of the above (i, ii, iii, iv)

Correct Answer:- Option-D

Question50:-A 45-year-old South Indian man underwent a renal allograft transplant for end-stage renal disease. He was administered tacrolimus, mycophenolate and prednisolone as immunosuppressive therapy. On follow-up at six months, he complained of a small, painless nodule on his right calf. Clinical examination revealed a subcutaneous, 2x 2-cm, firm, violaceous nodule with normal surrounding skin. There was no regional lymphadenopathy. The fine-needle aspiration of the nodule showed hyaline, banana-shaped, and multicellular macroconidia on culture. What should be the probable diagnosis?

- i. Aspergillus
- ii. Dermatophytes
- iii. Fusarium
- iv. Mucormycosis

A:-Only (i and iii)

B:-Only (ii and iv)

C:-Only (iii)

D:-Only (iv)

Correct Answer:- Option-C

Question51:-Babesiosis, is a tick-borne disease resulting in a febrile illness. Infection with Babesia is most commonly observed in

A:-Transfusion recipients

B:-Patients without a spleen

C:-AIDS patients

D:-Transplant recipients

Correct Answer:-Question Cancelled

Question52:-The diagnostic characteristics of Plasmodium falciparum are best described by which one of the following statements?

A:-A period of 72 h is required for the development of the mature schizont, which resembles a rosette with only 8 to 10 oval merozoites

B:-An important diagnostic feature is the irregular appearance of the edges of the infected red blood cell

C:-The signet-ring-shaped trophozoite is irregular in shape with ameboid extensions of the cytoplasm

D:-Except in infections with very high parasitemia, only ring forms of early trophozoites and the gametocytes are seen in the peripheral blood

Correct Answer:- Option-D

Question53:-An AIDS patient complains of headaches and disorientation. A clinical diagnosis of Toxoplasma encephalitis is made and Toxoplasma cysts were observed in a brain section. Which one of the following antibody results would be most likely in this patient?

A:-IgM nonreactive, IgG nonreactive

B:-IgM nonreactive, IgG reactive (low titer)

C:-IgM reactive (low titer), IgG reactive (high titer)

D:-IgM reactive (high titer), IgG reactive (high titer)

Correct Answer:- Option-B

Question54:-A patient whose major source of protein is smoked and cooked fish develops what appears to be pernicious anemia. Which parasite is noted for causing a look-alike vitamin B-12 anemia in certain genetically predisposed individuals?

- A:-Echinococcus granulosus
- B:-Diphyllobothrium latum
- C:-Hymenolepis nana
- D:-Dipylidium caninum

Correct Answer:- Option-B

Question55:-Trypanosoma cruzi initially penetrates through the mucous membranes on the skin and then multiplies in a lesion known as a chagoma. In the chronic stage of the disease, the main lesions are often observed in the

- A:-Spleen and pancreas
- B:-Heart and digestive tract
- C:-Liver and spleen
- D:-Digestive tract and respiratory tract

Correct Answer:- Option-B

Question56:-A patient who recently returned from camping in forest presents with malabsorption diarrhea. How does the most likely agent cause the diarrhea?

- A:-Co-infection with bacteria
- B:-Enterotoxin production
- C:-Suction disk attachment
- D:-Tissue invasion leading to an inflammatory response and prostaglandin production

Correct Answer:- Option-C

Question57:-A 42-year-old pt with AIDS presents with chronic, intractable, debilitating diarrhea. He says it began not long after returning from a camping trip. He admits to drinking water from a stream without using a filter or boiling it. At the lab, GSA (Giardia Stool Antigen) test which comes back negative. What is his likely diagnosis?

- A:-Amebiasis
- B:-Giardiasis
- C:-Cryptosporidium parvum
- D:-Plasmodium falciparum

Correct Answer:- Option-C

Question58:-A 9-year-old girl who appears listless and inattentive, although hearing and visual testing has been within normal limits. The physician finds the child thin, with the "potbelly" of malnutrition, and orders a faecal exam and CBC. The CBC reveals a microcytic, hypochromic anemia, and the faecal exam detects brown, oval nematode eggs approximately 65 microns in size, too numerous to count. What was the most likely means by which this child was infected?

- A:-Ingestion of cysts in muscle
- B:-Ingestion of ova
- C:-Ingestion of larvae
- D:-Skin penetration by larvae

Correct Answer:- Option-B

Question59:-A renal transplant patient was admitted for graft rejection and pneumonia. A routine evaluation of his stool showed rhabditiform larvae. Subsequent follow-up revealed similar worms in his sputum. He had no eosinophils in his peripheral circulation. The most likely organism is

- A:-Necator
- B:-Hymenolepsis
- C:-Ascaris
- D:-Strongyloides

Correct Answer:- Option-D

Question60:-Amoebae that are parasitic in humans are found in the intestinal tract. Which one of the following statements best describes these intestinal amoebae?

- A:-They are usually nonpathogenic
- B:-They can cause peritonitis and liver abscesses
- C:-They are usually transmitted as trophozoites
- D:-Infection with Entamoeba histolytica is limited to the intestinal tract

Correct Answer:- Option-A

Question61:-Which of the following statements best describes Microsporidia?

- A:-There is one genus of Microsporidia
- B:-Microsporidia have been detected only in patients with AIDS
- C:-Microsporidia are too small to be observed in stool specimens even with the use of special stains



D:-Microsporidia are found only in a variety of vertebrate and invertebrate hosts

Correct Answer:- Option-D

Question62:-A man coughed up a long (4 to 6 cm) white worm and his chief complaint was abdominal tenderness. He reports that he eats raw fish at least once a week. The following parasites have been observed in people who eat raw fish : Anisakis, Pseudoterranova, Eustrongylides, and Angiostrongylus. Which of the following would best differentiate the specific parasitic agent?

A:-Identification of specific species of fish involved

B:-Study of distinctive morphology of the parasite

C:-Specific antibody tests

D:-Antigen detection in tissues

Correct Answer:- Option-B

Question63:-Analysis of a patient's stool reveals small structures resembling rice grains ; microscopic examination shows these to be proglottids. The most likely organism in this patient's stool is

A:-Enterobius vermicularis

B:-Necator americanus

C:-T. Saginata

D:-Trichuris trichiura

Correct Answer:- Option-C

Question64:-All are correct regarding Zika virus infection EXCEPT :

A:-Incubation period for Zika virus disease is 3-14 days

B:-Zika viremia ranges from a few days to 1 week

C:-Pregnant women can have Zika virus in their blood longer than expected

D:-Virus remains in blood longer than in semen and urine

Correct Answer:- Option-D

Question65:-Dengue virus appears to have a direct man-mosquito-man cycle in India. The mechanism of dengue virus survival in inter epidemic period is

A:-Non human reservoir

B:-Dormant phase

C:-Transovarian transmission in Aedes

D:-Poor housekeeping in public

Correct Answer:- Option-C

Question66:-Which of the following cell lines are used for isolation of influenza virus

A:-Baby Hamster Kidney cell line

B:-HeLa cell line

C:-Hep-2 cell line

D:-Monkey Kidney Cell line

Correct Answer:- Option-D

Question67:-Respiratory Syncytial Virus (RSV) genome is characterized by

A:-Non enveloped, Negative sense, segmented, single stranded RNA

B:-Non enveloped, Negative sense, non segmented, single stranded RNA

C:-Enveloped, Negative sense, segmented, single stranded RNA

D:-Enveloped, Negative sense, non segmented, single stranded RNA

Correct Answer:- Option-D

Question68:-Which of the following is considered gold standard for confirmed diagnosis of JE virus?

A:-PRNT (Plaque Reduction Neutralization Test)

B:-Presence of IgM antibody in CSF

C:-Four fold increase in IgM antibody titre in paired sera

D:-Presence of IgG antibody in serum

Correct Answer:- Option-A

Question69:-Incorrect statement about Adenovirus

A:-HAdV-40 and 41 has a linear ds genome with icosahedral symmetry

B:-Serotype 40 and 41 produces cell rounding and aggregation into grape like cluster

C:-On Electron microscopy serotype 40 and 41 shows both hexon and penton fibres

D:-immunofluorescence Ag detection is one of the test to detect adenovirus types 40 and 41 in stool samples

Correct Answer:- Option-B

Question70:-Which of the following is Not correct regarding sample collection and storage for diagnosis of Acute Encephalitis Syndrome (AES)?

A:-Stool sample collected and stored at -20°C for enterovirus

B:-CSF sample stored at -20°C if delay of less than 24 hours, for virus culture, RT-PCR

C:-Urine sample collected and stored at -20°C for mumps virus

D:-Sera frozen at -20°C and should be transported to laboratory on frozen ice packs if delay of more than 7 days

Correct Answer:- Option-B

Question71:-Which of the following is minimum acceptance criteria (ICMR) for Covid 19 IgG ELISA?

A:-Sensitivity  $\geq 90\%$  and Specificity  $\geq 95\%$

B:-Sensitivity  $\geq 90\%$  and specificity  $\geq 99\%$

C:-Sensitivity  $\geq 90\%$  and specificity  $\geq 90\%$

D:-Sensitivity  $\geq 99\%$  and specificity  $\geq 95\%$

Correct Answer:- Option-A

Question72:-Q-CMV retinitis in HIV occurs when the CD4 counts below

A:-50

B:-100

C:-150

D:-200

Correct Answer:- Option-A

Question73:-Which of following types of HPV virus group contains all high risk type?

A:-16, 18, 31, 32, 33, 35, 39

B:-16, 18, 31, 33, 35, 39, 42

C:-16, 18, 51, 52, 53, 54, 56

D:-16, 18, 6, 11, 31, 33, 35

Correct Answer:- Option-B

Question74:-What is the genetic structure of rotavirus?

A:-Circular DNA containing virus

B:-RNA virus with RT

C:-ss RNA virus

D:-ds RNA virus in segments

Correct Answer:- Option-D

Question75:-Which of the following statements about Lamivudine is FALSE?

A:-Possess Anti HIV and Anti HBV activity

B:-Should not be used as monotherapy in HIV infected patients

C:-Dose is lower for HIV replication than HBV replication

D:-Lamivudine is not associated with peripheral neuropathy and pancreatitis

Correct Answer:-Question Cancelled

Question76:-A 21-day-old neonate is admitted to the NICU for evaluation of fever, focal seizures, irritability and poor feeding. Physical examination of the baby reveals nuchal rigidity with positive Kernig and Brudzinski signs. A few vesicles 1-2 mm, in size are observed on the anterior abdominal wall and left forearm. Scrapings from the base of one such lesion reveal multinucleate giant cells. Based on the information provided, the most likely pathogen is

A:-*Treponema pallidum* subsp. *pallidum*

B:-Human papillomavirus

C:-Herpes simplex virus

D:-*Haemophilus ducreyi*

Correct Answer:- Option-C

Question77:-Which one of the following viruses is a biosafety level 4 (BSL-4) pathogen?

A:-Influenza A H1N1 virus

B:-Zika virus

C:-Nipah virus

D:-Rabies virus

Correct Answer:- Option-C

Question78:-The level of which antibody is induced in primary immune response?

- A:-IgG
- B:-IgM
- C:-IgE
- D:-IgA

Correct Answer:- Option-B

Question79:-Regarding urinary tract infections, which of the following statements is INCORRECT?

- A:-Escherichia coli is the most frequent infecting organism in acute community acquired infection
- B:-Absence of pus cells in urine does not rule out infection
- C:-Ureaplasma urealyticum is the most common infective cause of chronic pyelonephritis
- D:-Renal calculi are commonly seen in infections caused by Proteus spp

Correct Answer:- Option-C

Question80:-A 38-year cow keeper had a history of intermittent fever with body ache, loss of appetite and weakness for three weeks. On examination, no specific signs and symptoms were revealed except anaemia. The cow keeper attended to this cattle and sold the milk in the market. What is the most probable cause of pyrexia of unknown origin?

- A:-Salmonella Typhi
- B:-Brucella abortus
- C:-Rickettsia prowazekii
- D:-Leptospira interrogans

Correct Answer:- Option-B

Question81:-A patient presented to an STD clinic with painful genital ulcer and painful, soft indurated enlarged inguinal lymph node. Identify the pathogen

- A:-Herpes simplex
- B:-T. pallidum
- C:-H. ducreyi
- D:-Calymmatobacter spp.

Correct Answer:- Option-C

Question82:-A 27-year young man travelled to a village in the north-eastern part of India where he stayed for 3 days. After he returned, he developed abdominal cramps with mild fever followed by increased frequency of stool associated with blood and mucus. Routine microscopy examination of the stool sample revealed abundant pus cells. Which of the following may cause the above presentation?

- A:-Shigella dysenteriae
- B:-Staph. aureus
- C:-Bacillus cereus
- D:-Clostridium perfringens

Correct Answer:- Option-A

Question83:-Triclabendazole is the drug of choice in

- A:-Fascioliasis
- B:-Fasciolopsiasis
- C:-Schistosomiasis
- D:-Paragonimiasis

Correct Answer:- Option-A

Question84:-The only virus infecting humans whose DNA polymerase possesses reverse transcriptase activity is

- A:-Herpes simplex virus type 2
- B:-Human immunodeficiency virus
- C:-Human papillomavirus
- D:-Hepatitis B virus

Correct Answer:- Option-D

Question85:-A 22-year-old male college student presented of a high fever and chest pain. His chest x-ray does not show any significant consolidation except hilar lymphadenopathy. There was no history of productive cough. All of the below-mentioned bacteria can cause such an infection EXCEPT

- A:-Streptococcus pneumoniae
- B:-Mycoplasma pneumoniae
- C:-Chlamydia pneumoniae
- D:-Legionella pneumophila

Correct Answer:- Option-A

Question86:-A 2 year old child presents with weight loss and respiratory symptoms. His respiratory samples are subjected to the following tests. Which of the following will not be useful in his diagnosis?

A:-GeneXpert

B:-Line Probe Assay

C:-Loop-mediated Isothermal Amplification

D:-Branched DNA Assay

Correct Answer:- Option-B

Question87:-Which of the following statement is true regarding the HBV vaccine?

A:-is a live-attenuated vaccine

B:-vaccine is given in two doses

C:-an anti-HBs titre of  $\geq 10$  IU/L is considered protective

D:-contraindicated in neonates

Correct Answer:- Option-C

Question88:-Which of the following matching regarding biomedical waste guidelines is correct?

A:-Contaminated plastic wares : Red bin

B:-Anatomical waste : Yellow bin

C:-Metallic Sharps : White bin

D:-Glass sharps : Black

Correct Answer:- Question Cancelled

Question89:-Feature not consistent with Plasmodium knowlesi malaria is

A:-microscopy is the gold standard for diagnosis

B:-naturally found in long-tailed and pig-tailed macaque

C:-thrombocytopenia is the most common blood abnormality

D:-it has a short erythrocytic cycle, hence potentially fatal

Correct Answer:- Option-A

Question90:-Which of the following amplification method is not based on an isothermal cycle?

A:-Strand displacement amplification

B:-Helicase dependent amplification

C:-Nucleic acid sequenced-based amplification

D:-Real-time PCR

Correct Answer:- Option-D

Question91:-COVID-19 is

A:-Single-stranded RNA

B:-Single-stranded DNA

C:-Double-stranded RNA

D:-Double-stranded DNA

Correct Answer:- Option-A

Question92:-Which of the following is not considered for the reporting of central line infection

A:-Brachiocephalic vein

B:-Umbilical artery in infants

C:-Femoral arterial catheters

D:-Common iliac vein

Correct Answer:- Option-C

Question93:-Which of the following is not zoonotic?

A:-Brucella melitensis

B:-Bordetella pertussis

C:-Francisella tularensis

D:-Leptospira interrogans

Correct Answer:- Option-B

Question94:-MALDI-TOF is the identification system based on

- A:-Unique protein composition
- B:-Unique biochemical reaction
- C:-Unique nucleotide sequence
- D:-Unique metabolic properties of the bacteria

Correct Answer:- Option-A

Question95:-Which of the following is not a chemical sterilant?

- A:-Gluteraldehyde  $\geq 2.4\%$
- B:-Peracetic acid 0.2%
- C:-Hydrogen peroxide 7.5%
- D:-Isopropyl alcohol

Correct Answer:- Option-D

Question96:-The most common means of transmission of infection in the hospital is

- A:-Infected patients
- B:-Contaminated equipment
- C:-Contaminated hands
- D:-Air

Correct Answer:- Option-C

Question97:-Which of the following infection is not transmitted by droplet infection?

- A:-Influenza virus
- B:-Bordetella pertussis
- C:-Mycobacterium tuberculosis
- D:-Neisseria meningitidis

Correct Answer:- Option-C

Question98:-The stain commonly used to identify the coccidian group of parasites is

- A:-Giemsa stain
- B:-Leishman stain
- C:-Modified Z-N stain
- D:-Gram stain

Correct Answer:- Question Cancelled

Question99:-A preferred method of vaccine sterilization is by

- A:-Seitz filtration
- B:-Hot air oven
- C:-Autoclave
- D:-Heat inactivation

Correct Answer:- Option-A

Question100:-Which of the following is an example of live vaccines?

- A:-Pertussis vaccine
- B:-Oral typhoid vaccine
- C:-Meningococcal vaccine
- D:-Pneumococcal vaccine

Correct Answer:- Option-B