

Question Bank for paper No- X
Examination held in June 2022.

B. Sc. Examination CBCS Regular Pattern (Course Code 2324)
B. Sc. (Part - III)
(Semester - V) to be held in June 2022
BOTANY (Paper X)
(DSE E 26)
(Microbiology, Plant Pathology and Mushroom Culture Technology)
(Sub. Code: 79689)

Day and Date :
Time :

Total Marks : 40

Que. 1) Rewrite the following sentences by choosing correct alternatives.

1. is basic dye for bacteria.
A) Crystal violet B) Light green C) Eosin D) Carmine
2. is a semi synthetic culture medium.
A) Czapek Dox Agar B) Potato Dextrose Agar C) Hogland solution D) Sabourd's medium
3. In autoclave Is used to sterilize the object.
A) Electricity B) Steam C) Air D) Humidity
4. Dextrose in PDA is a source of to organisms.
A) Carbon B) Nitrogen C) Phosphorus D) Potassium
5. Steam sterilization is done under pressure at using autoclave at 121.6 0C.
A) 15 lbs B) 10 lbs C) 20 lbs D) 30 lbs
6. The sterilizing agent is
A) Ethylene oxide B) Nitrogen C) Oxygen D) Carbon tetrachloride
7. is used during dry heat method of sterilization.
A) Hot air oven B) Electromagnetic radiation C) Formaldehyde D) Ethylene
8. The procedure of differential staining of bacteria was developed by
A) A. H. Gram B) H. C. Gram C) N. C. Gram D) H. A. Gram
9. *Bacillus* is an example of
A) Gram positive bacteria B) Gram negative bacteria C) Virus D) Viroid
10. Gram staining technique is used for
A) Fungi B) Bacteria C) Viruses D) Actinomycetes
11. Staining material of gram positive bacterium is
A) Fast green B) Crystal violet C) Haematoxylin D) Safaranine
12. During Staining technique in bacteria Is used as decolorizing agent.
A) Crystal violet B) Iodine C) Alcohol D) Safaranine

13. Gram positive bacteria have acidic protoplasm.
A) More B) Equal C) Less D) No
14. is used as solidifying agent in culture media.
A) Dextrose sugar B) Agar agar C) Potato pulp D) Malt extract
15. Agar agar is obtained fromalgae.
A) *Sargassum* B) *Padina* C) *Gracillaria* D) *Ectocarpus*
16. The process of complete killing of microorganisms from the objects is called
A) Incubation B) Inoculation C) Sterilization D) Compression
17. The virus mediated bacterial recombination is known as
A) Transduction B) Conjugation C) Transformation D) Recombination
18. Bacterial transformation was discovered by
A) Lederberg and Tatum B) Beadle and Tatum C) Griffith D) Zinder
19. Transformation mechanism of recombination in bacteria is discovered by...
A) Tatum B) Zinder C) F. Griffith D) Lederberg and Tatum
20. The donar strain of bacteria contains
A) 'F' factor B) X-chromosome C) Y-chromosome D) XY-chromosomes
- 21) In bacteria the mechanism of recombination in which DNA molecules of donor cell, pass into the recipient cell through the liquid medium is known as
A) Transduction B) Conjugation C) Transformation D) Transmission
22. The transfer of genes from one cell to another is called
A) Transduction B) Conjugation C) Transformation D) Transmission
- 23) The transfer of cell free or naked DNA from one cell to another by a bacteriophage is called
A) Transduction B) Conjugation C) Transformation D) Transmission
24. Genetic recombination between bacterial cells is first demonstrated by
A) Ochoa and Korenberg B) H. G. Khorana C) H. J. Muller D) Lederberg and Tatum
25. The donar strain of bacteria contains
A) 'F' factor B) X-chromosome C) Y-chromosome D) XY-chromosomes
26. Acid fast staining is used to stain.....
A) *Mycobacterium* B) *Xanthomonas* C) *Rhizobium* D) *Penicillium*
27. After the Gram stain the gram positive bacteria appears incolour
A) purple B) green C) orange D) black
28. After the Gram stain the gram negative bacteria appears incolour
A) white B) green C) pink D) Black
29. After the Acid fast stain the bacteria appears incolour

- A) orange B) green C) red D) Black
30. In gram stain the mordant stain is.....
A) Carbol Fuchsin B) Light green C) alcohol D) Iodine
31. Czapek Dox agar medium is a type of.....medium.
A) Differential B) semi-synthetic
C) synthetic D) Natural
32. When a inoculums contain..... is named as pure culture
A) single B) two different cultures
C) three different cultures D) four different cultures
33. The process which allows growing the microorganisms in laboratory is called.....
A) Incubation B) Inoculation C) isolation D) fixation
34. The basic medium which contains some nutritionally rich compounds that is called as.....medium.
A) Enrichment B) semi synthetic
C) synthetic D) Natural
35. Stain is the differential stain
A) Acetocarmine B) cotton blue
C) light green D) Grams
36. rays are used in the non-ionized type of sterilization
A) UV B) cosmic
C) X rays D) gamma
37. Streak plate is the method of
A) Obtaining the pure culture B) sterilization
C) chromatography D) measurement of disease index
38. Fermentation is the.....process.
A) anaerobic B) aerobic
C) transpiration D) photophosphorylation
39. A bacterial genome consists of a molecule.
A) single DNA B) single RNA
C) double DNA D) double RNA and DNA
40. Bacterial genome contains
A) DNA and histones B) Only DNA
C) DNA without histones D) Only histones
41. Transformation mechanism of recombination in bacteria is discovered by.

- A) Tatum B) Zinder
B) C) F. Griffith D) Lederberg and Tatum

42. Genetic material of Virus is

- A) DNA and RNA B) Only DNA
B) C) Only RNA D) Either DNA or RNA

43. In bacteria sexual reproduction takes place by

- A) Binary fission B) Endospore
C) Conjugation D) Budding

44. The donor strain of bacteria contains

- A) F' factor B) X-chromosome
C) Y-chromosome D) XY- chromosomes

45. The F plasmid is involved in the process of

- A) Transduction B) Conjugation
C) Transformation D) Transposition

46. Capsid of viral genome is made up of

- A) Lipid coat B) Carbohydrate coat C) Protein coat D) Starch coat

47. The mechanism of recombination in bacteria which take place by contact of donor and recipient strains is known as

- A) Transduction B) Conjugation C) Transformation D) Transmission

48. In bacteria the mechanism of recombination in which DNA molecules of donor cell, pass into the recipient cell through the liquid medium is known as

- A) Transduction B) Conjugation
C) Transformation D) Transmission

49. Fermentation is a Process.

- A) Physiological B) Biological
C) Chemical D) Physical

50. Antibiotic 'Penicillin' was discovered by.....

- A) Alexander Flemming B) Ficher
C) Olive D) Robert Koch

51. Penicillin is commercially produced by

- A) *P. notatum* B) *P. citrinum*

C) *P. chrysogenum* D) *P. roqueforti*

52. is used in the fermentation of sugar to obtain alcohol.

A) *Penicillium* B) *Taphrina* C) *Saccharomyces* D) *Phytoplasma*

53. Zymase is obtained from

A) *Saccharomyces ludwigi* B) *Saccharomyces cerevisiae*

C) *Saccharomyces boulardii* D) *Saccharomyces crusiana*

54. The purification and recovery of the production after fermentation is called

A) Upstream process B) Downstream process

C) Surface fermentation D) Open fermentation

56..... is a bio-pesticide.

A) DDT B) Bavistin C) Nimbidine D) Sulphur powder

57. Biocontrol agent used against plant diseases is

A) *Trichoderma* B) *Bacillus thuringiensis* C) *Glomus* D) *Buculovirus*

58..... Is an antibiotic used to inhibit the growth of microorganisms

A) Penicillin B) *Mucor* C) *Penicillium* D) *Candida*

59..... decompose quickly and are environment friendly.

A) Weedicides B) Biopesticides C) Nematicides D) Herbicides

60. The process of using a natural predator to control a pathogen is called control.

A) Artificial B) Biological C) Chemical D) Synthetic

61. Molasses is presently used for ----- production.

A) Alcohol B) Antibiotic C) Lactic acid D) Citric acid

62. After the fermentation process penicillin is recovered as-----

a) Magnesium Penicillin b) sodium penicillin c) Calcium penicillin d) potassium penicillin

63. ----- fermentation process is used in the production of penicillin.

A) Aerobic B) Anaerobic C) Lactic D) Alcoholic

64. ----- is the scientific study of diseases in plants.

A) Plant pathology B) plant physiology C) Plant ecology D) cytology

65. ----- is considered as father of plant pathology.

A) Heinrich Anton De. Bary B) Heinrich harrier C) Heinrich Heine D) Carl Lewis

66. Plant diseases caused by non –living agents are called as

A) Biotic diseases

B) Abiotic diseases

C) Non – infectious diseases

D) Infectious diseases

67. Plant diseases caused by living organisms are called as
- A) Biotic diseases B) a biotic diseases
C) Non- infectious diseases D) Infectious diseases
68. Bacterial disease was first reported by -----
- A) Cark Lewis B) Sir Edwin John Butler
C) Heinrich Antol de Bary D) Thomas J. Burrel
69. In case of plant –pathogenic bacteria -----increases virulence of bacteria.
- A) Capsule B) nucleotide C) t RNA D) Cell Wall
70. Citrus Canker is adisease.
- A) Bacterial B) Fungal C) Phytoplasmal D) viral
71. Most of the parasites enter the host through -----
- A) Stomata B) lenticels C) Wounds D) Cuticle
72. Whip Smut of Sugarcane is caused by.....
- A) Bacteria B) Virus C) Fungi D) mycoplasma
73. Blue green algae cause the plant diseases by -----
- A) Zoospores B) aplanospore
C) Akinetes D) Both aplanospore & Akinetes
74. Red rust of coffee caused by-----
- A) Algal members B) Fungi C) Mycoplasma D) Virus
75. -----as absorb food material from the host and produces toxin in the host plant.
- A) Parasite B) epiphyte C) saprophyte D) none-of above
76. *Cuscuta reflexa* is -----
- A) Partial stem parasite B) Total stem parasite
C) Partial root parasites. D) Total root parasite
77. Nematodes present in soil & water they are-----
- A) Facultative parasite B) obligate parasite C) epiphyte D) symbiotic

78. Phloem necrosis is caused by-----
- A) Insects B) Nematode C) protozoans D) Birds
79. The symptoms of phloem necrosis diseases include -----
- A) Root die back B) yellowing C) dropping leaves D) all of above
80. Tobacco virus transmit through-----
- A) Aphids B) Tree hopper C) white flies D) leaf hopper
81. Long form of the TMV----
- A) Tomato Mosaic virus B) Tobacco Mosaic virus
- C) Tamarind mosaic virus D) none of above
82. MLO's causes-----and symptoms in various crop plants.
- A) Phylloidy B) broom shape C) Yellow diseases D) all of above
83. Symptoms of plant diseases show ----- effect on plant.
- A) Visible B) non visible C) anatomical D) microscopic
84. -----is a loss of turgidity of aerial parts causing drooping, foundling and rolling
- A) Wilting B) Mutation C) guttation D) none of above
85. Abnormal yellowing colour of leaf tissue is called -----
- A) Blight B) chlorosis C) necrosis D) dead patches.
86. Death of the host cell and tissue and organ induced by a pathogen is called-----
- A) Chlorosis B) necrosis C) cancer D) Water soaking
87. Damping off is a -----
- A) Soil borne fungal disease B) Bacterial diseases C) air born fungal diseases D) viral diseases
88. The dispersal of plant pathogen from infected plant to healthy plant is called -----
- A) Transversion B) Transpiration C) Transmission D) none of above
89. Bacteria – blight of paddy is caused by -----
- A) *Xanthomonas campestris* B) *Xanthomonas oryza*
- C) *Xanthomonas axonopodis* D) *Xanthomonas citri*
90. Red rot of Sugarcane caused by ----- causal organism.

- A) *Colletotrichum falcatum* B) *Colletotrichum capsici*
C) *Colletotrichum gloesporioides* D) none of above

91. Downy mildew of Bajara caused by -----

- A) *Sclerospora sorghi* B) *Sclerospora graminicola*
C) *Sclerospora philippinesis* D) none of above

92. In most fungi, hyphae are the main mode of vegetative growth and are collectively called ----

- A) Mycelium B) conidia C) conidiophores D) oospores

93. The causal organism of Ring rot of potato is -----

- A) *Corynebacterium diptheriae* B) *Corynebacterium striatum*
C) *Corynebacteria* D) none of above

94. Anemochory is discovered by -----

- A) Gaumann B) Morgan C) Write D) none of above.

95. The causal organism of Loose Smut of Wheat is-----

- A) *Ustilago maydis* B) *Ustilago tritici* C) *Ustilago avenae* D) none of above

96. Causal organism of Grassy Shoot of disease of Sugarcane is-----

- A) Mycoplasma B) *Phytoplasma sacchari*
C) *Xanthomonas campestris* D) None of above

97. GSD of Sugarcane is firstly recorded in ----- state.

- A) Nepal B) Gujarat C) Bombay D) Bihar

98. Infected plant produces large number of thin leaved -----called as GSD of Sugarcane.

- A) Bunch of grass B) Whip like leave C) tiller like D) like Woody

99. ----- is prominent symptom of Grassy shoot of Sugarcane.

- A) Grassy appearance of the plant B) shoot remains dwarf or stunted
C) Shoot growing from infected seed setts D) all of above

100. The leaves are narrow and small grass like called as -----

- A) Grassy shoot disease of sugarcane B) Citrus canker
C) Yellow vein mosaic of Bhendi D) White rust of Crucifer.

101. Mycoplasma like organism is present in sieve tube of the -----
A) Tracheid B) Epidermal cell C) phloem D) xylem
102. ----- vector responsible for the transmission of Sugarcane to Sorghum and from Sorghum to Sugarcane.
A) Plasmid B) plastid C) Aphis sacchari D) PCR 322
103. Sugarcane setts should be kept in hot air at -----⁰C for 8 hour for avoiding disease infection
A) 80 ⁰C B) 70 ⁰C C) 100 ⁰C D) 54 ⁰C
104. -----And-----is serve as natural collateral host in Grassy shoot disease of sugarcane.
A) Rice and wheat B) sorghum and rice C) sorghum and maize D) citrus and Jawar
105. Citrus canker firstly recorded in -----
A) USA B) china C) Japan D) Indian
106. -----is humidity range is favourable factor for development of citrus canker
A) 40 to 50% B) 60 to 70% C) 80 to 90% D) none of above
107. ----- is a hybrid variety of citrus.
A) *Citrus aurantifolia* B) *Oryza sativa* C) *Annona quamosa* D) *Malus domestica*
108. Causal organism of citrus canker is-----
A) *Spacillotheca sorghi* B) *Xanthomonas campestris*
C) *Puccinia purpurea* D) none of above
109. -----is gram-negative bacteria.
A) *Xanthomonas citri* B) vibrio comma C) Treponema D) Anaplasma
110. -----is a resistant variety of citrus
A) CO-419 B) Mandari C) Keshar. D) Hapus
111. Botanical name of Bhendi is -----
A) *Abelmoschus esculantum* B) *Murraya koenigii* C) *Musa species* D) none of above
112. Yellow –vein mosaic of Bhendi is transmitted through -----
A) Butterfly B) House fly C) White fly D) Grasshopper

113. Causal organisms of white rust of Crucifer is-----
 A) *Albugo candida* B) *Cercospora arachicola*
 C) *Spacilotheca sorghi* D) none of above
114. For the development of Tikka disease of groundnut the temperature range is-----
 A) 26 to 31 °C B) 150 to 200 C) 100 to 150 °C D) 10 to 20 °C.
115. White coloured pustules firstly occur on the----- of crucifers.
 A) Petioles B) pods C) stem D) leaves surface.
116. Primary infection occurs due to -----in white rust of crucifers
 A) Zoospore B) Spore C) oospore D) conidiophores
117. -----is main symptoms to identified Tikka disease of groundnut
 A) Green spot on leaves B) White spot on leaves
 C) black spot on leaves d) D) pustules present on leaves
118. Botanical name of groundnut -----
 A) *Arachis hypogea* B) *Pigeon pea* C) *Cajanus cajan* D) *Phaseolus sps*
119. Causal organism of Tikka disease of groundnut-----
 A) *Cercospora personata* B) *Xanthomonas campestris*
 C) *Spacilotheca sorghi* D) none of above
120. In Tikka disease pathogen perennates through-----
 A) Spores B) Conidia C) macrospores D) none of above
121. Conidia forms -----in Tikka disease of groundnut.
 A) Mycelium B) Hypanthium C) conidiophores D) none of above
122. Mushroom belongs to group of-----
 A) Algae B) Fungi C) Bryophytes D) Angiosperms
- 123) Mushroom belongs to----- class of fungi.
 A) Ascomycetes B) Phycomycetes C) Deteuromycetes D) Basidiomycetes
124. Chandra (1976) has listed more than----- species of edible mushrooms in India.
 A) 139 B) 189 C) 193 D) 100

125. Mushroom produces-----

- A) Ascospores B) Conidiospores C) Basidiospores D) Teleutospores

126) -----is edible mushroom species.

- A) *Pleurotus sajor -caju* B) *Amanita muscaria* C) *Russula spp.* D) *Boletus spp.*

127) -----is poisonous mushroom can cause death.

- A) *pleurotus sajor- caju* B) *Amanita muscaria*
C) *Agaricus bisporus* D) *Morchella spp.*

128) The cultivation of----- species of mushroom was introduced in paris (france).

- A) *Agaricus bisporus* B) *Morchella spp.*
C) *Volvariella spp.* D) *Amanita muscaria*

129) In India, Scientific work on ----- was first started at College of Agriculture, Coimbtore.

- A) *Volvariella spp.* B) *Agaricus spp.*
C) *Pleurotus spp.* D) *Morchella spp.*

130) *Pleurotus spp.* is locally known as-----

- A) Dhingri B) Dongari C) Alimbi D) Murabba

131) *PLeurotus sajor-caju* is an excellent mushroom for cultivation due to its-----

- A) flavour and texture B) colour and texture C) texture and habit D) flavor and colour

132) The substrate on which mushroom grow is called-----

- A) Fertilizer B) compost C) spawn D) crop

133) The Propagating material used by mushroom grower is called-----

- A) Compost B) fertilizer C) spawn D) crop

134) Casting is not required for-----

- A) *Agaricus bisporus* B) *Agaricus campestris*
C) *Pleurotus sajor-caju* D) *Lepiota procera*

135) *Pleurotus sajor-caju* was considered as excellent mushroom for cultivation in-----

- A) Florida B) Europe C) Africa D) India

136) *Pleurotus sajor-caju* gives best yields at ----- temperature range.

- A) 15 to 20 °C B) 22 to 28 °C C) 25 to 35 °C D) 20 to 30 °C

137) ----- species of mushroom is used to reduce growth of tumor.

- A) *Flammulina velutipes* B) *Agricus bisporus*
C) *Polyporus sulphurus* D) *Amanita muscaria*

138) ----- species of mushroom yields yellow dye.

- A) *Agaricus bisporus* B) *Amanita muscaria*
C) *Fomes ignarius* D) *Polyporus sulphurus*

139) Mushrooms are rich in-----

- A) Proteins B) lipids C) carbohydrates D) Minerals

140) *Pleurotus sajor-caju* grows on -----materials.

- A) Lignin cellulosic B) tannin C) fibres D) chitinous

141) Mushroom cultivation technology is developed at----- New Delhi.

- A) IARI B) UGC C) MOEF D) DST

Que no. 2) Attempt ANY TWO of the following:

- 1) What is the sterilization? Explain in brief methods of sterilization.
- 2) What is the recombination in bacteria? Describe the mechanism transformation in Bacteria.
- 3) Explain methods of synthesis of organic acid.
- 4) Write an account of application of micro-organism with reference to synthesis of Antibiotics.
- 5) Describe Classification of plant diseases on the basis of symptoms.
- 6) Describe Classification of plant diseases on the basis of pathogens.
- 7) Describe types of transmission of pathogen.
- 8) Explain control methods of plant diseases.
- 9) Explain causal organisms, symptoms and control measures of Grassy shoot of Sugarcane.
- 10) Write an account of application of micro-organisms with reference to synthesis of antibiotics.
- 11) Explain in brief the technique for cultivation of Mushroom.
- 12) Explain advantages of cultivation of *Pleurotus sajor-caju* and add a note on its value added product.
- 13) Describe cultivation practices for *Pleurotus sajor-caju*.
- 14) Describe causal organism, symptoms and control measures of Tikka disease of groundnut.
- 15) Describe the types of transmission of pathogen?

Que no .3) Attempt ANY FOUR of the following

- 1) RNA viruses
- 2) Antibiotics
- 3) Role of quarantine in plant disease control
- 4) Yellow vein mosaic of Bhendi
- 5) Citrus canker
- 6) Explain edible mushrooms
- 7) Bio- pesticides
- 8) Synthesis of alcohol
- 9) Economic importance of Mushroom
- 10) Transduction
- 11) Pure culture technique
- 12) Write on Actinomycetes
- 13) Role of microorganism in industrial application
- 14) White rust of crucifer
- 15) Seed born pathogen
- 16) Mushroom storage
- 17) Mushroom bed preparation
- 18) Tricoderma Biofertilizers
- 19) Value added products of Mushroom
- 20) Transformation