

Paper-I General

1. A student centric method of teaching is
 - a. Lecture
 - b. Online video
 - c. Group discussion
 - d. Assignment
2. The term that best describes the process of acquiring specific skills is
 - a. Training
 - b. Learning
 - c. Teaching
 - d. Experiencing
3. The level of teaching with highest valuation is
 - a. Memory level
 - b. Understanding level
 - c. Reflective level
 - d. Rote level
4. Detailed plan with course material and method of teaching is called as
 - a. Syllabus
 - b. Notes
 - c. Curriculum
 - d. Précis
5. The single most essential trait of a teacher is
 - a. Command over language
 - b. Knowledge of the subject
 - c. Desire to teach
 - d. Humorous nature
6. Teaching aids are useful for all of the following aspect of learning process EXCEPT
 - a. Memory
 - b. Understanding
 - c. Aptitude
 - d. Enthusiasm
7. An example of informal learning is
 - a. Group discussion
 - b. Online lectures
 - c. Classroom teaching
 - d. Social interaction

8. The examination that you are currently participating in is best described as
- Placement evaluation
 - Diagnostic evaluation
 - Formative evaluation
 - Summative evaluation
9. A researcher is studying the views of people in a country regarding the role of WHO during Covid-19. This type of research is best termed as
- Quantitative research
 - Qualitative research
 - Deductive research
 - Inductive research
10. Amongst the following components of a research paper, the most essential components is
- Introduction
 - Method
 - Result
 - Discussion
11. In order to find out the percentage of people who have been vaccinated in a large company of 10,000 employees, the researcher write the ID numbers of employee on chits and then pick the chits after mixing them to select 100 employees for collection of data. This type of sampling is best termed as
- Convenient sampling
 - Clustered sampling
 - Stratified sampling
 - Random sampling
12. Which of the following will NOT qualify as appropriate research ethics?
- To maintain the confidentiality of the participants
 - To record additional information without telling participants
 - To record same parameters with multiple methods
 - To record same parameter multiple times during the course of study
13. Amongst the following options, the best way to evaluate the value of published paper is
- Journal in which the paper is published
 - Country from where the paper is published
 - Number of authors in the paper
 - Citation of the paper

14. All of the following can be considered as research except
- Study to find out relationship between two measurable variables
 - Study to find out mechanism of an observed phenomenon
 - Study to prove what you already believe in
 - Study to recheck the finding of earlier published research
15. The calculation of number of participants in a study (Sample size) is based on
- Available persons
 - Feasibility
 - Standard deviation of the variable to be measured
 - Cost of the study
16. A researcher has recorded a satisfaction level of consumers who use online sales portal by asking them to rate their experience on a scale of 1 to 5. The data obtained by the researcher is best classified as
- Nominal
 - Ordinal
 - Continuous
 - Discrete
17. A researcher has collected data regarding marks obtained in the final exams and attendance of students in a school. The best method to scientifically show an association between two variables is
- Comparison of mean values of marks with mean values of attendance
 - Comparison of standard deviation of marks with standard deviation of attendance
 - Determination of correlation of marks with attendance
 - Data not enough to determine association between marks and attendance
18. Hybrid Cars are vehicles that have the capability of running either on electric power or petroleum products. Running a hybrid car in electric mode has the advantage of cutting down on the gas emissions produced by a petroleum fuelled car. Hybrid cars do not have as high accelerations compared to conventional cars and their capacity is lower compared to larger petrol vehicles. Even though running a hybrid car can be cheaper, their purchasing costs are much higher than that of a petrol car.
- Which of the following can be best inferred based on the above passage?
- Road trips take longer in hybrid cars.
 - It is more profitable for car manufacturers to produce hybrid cars.
 - Hybrid cars have certain lacunae compared to petrol cars
 - Gas emissions of petrol cars contribute to global warming.

19. Mr Y starts walking northwards for 1 km and then turns westwards and walks for another 1 km. He then turns by 135 degrees to his left and walks for another 2 km. From his starting point, Mr Y is now
- northwest
 - Southwest
 - Northeast
 - Southeast

20. A man, woman, dog and duck entered into a park at different times on a day. Read the statements carefully:

- The man entered before the dog.
- The bird entered at last.
- The woman entered after the dog but before the duck.

Who entered the park at first?

- Man
 - Woman
 - Duck
 - Dog
21. Suraj, Dalbir, John and Irfan are friends. Suraj is taller than John but shorter than Dalbir. The height of Dalbir is 6 feet. Irfan is tallest of all four friends. Which of the following statements is NOT correct?
- John is shortest of all four friends.
 - Height of Irfan is more than 6 feet.
 - Suraj is less than 6 feet tall.
 - Dalbir is taller than Irfan.

22. Observe and analyse the series of numbers given below

0, 1, 1, 2, 3, 5, X, 13, 21

The number at location X is

- 6
 - 7
 - 8
 - 9
23. If FAN is written as GBO, then CAT will be written as :
- DBU
 - GBU
 - DAU
 - TBU

24. If LOVE is written as PSZI, then NOTE will be written as:

- a. RSXI
- b. RSZI
- c. PZSJ
- d. RSXJ

25. In a row of students, A was placed 5th from the left while the B was placed 7th from the right. When A and B exchanged their places, the A became 19th from the left. From the centre of row, how far right A is now placed?

- a. 4th
- b. 5th
- c. 6th
- d. 7th

26. Consider the following statement made by a teacher in a class to a student "The way you answer to the questions asked in class, you will make a good spokesperson for a political party"

This statement is best classified as

- a. Mass communication
- b. Meta communication
- c. Formal communication
- d. Horizontal communication

27. All of the following forms of communication provide an opportunity for a feedback EXCEPT

- a. Formal communication
- b. Informal communication
- c. Mass communication
- d. Non-verbal communication

28. All of the following can be considered as a form of communication EXCEPT

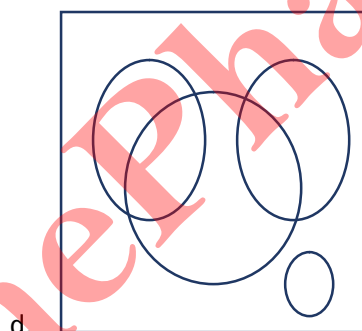
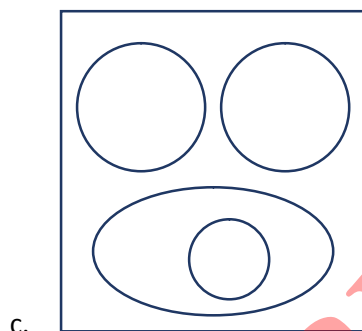
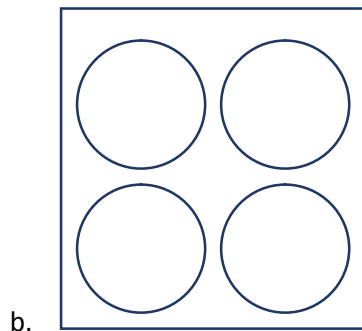
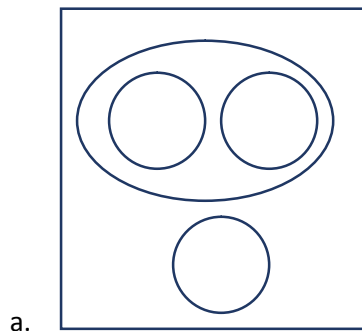
- a. Debate
- b. Seminar
- c. Group discussion
- d. Observing conversation between two persons

29. A researcher is recording weight, age, daily food consumption and daily exercise in a group of students. In this study, the variable that can be classified as dependent variable is

- a. Weight
- b. Age
- c. Daily food consumption
- d. Daily exercise

30. A researcher has sampled 1000 persons from five cities and collected information whether they had Covid-19 infection. The number of persons sampled in each is different. The best way to graphically present this data is
- Line diagram
 - Pie chart
 - Scatter plot
 - Box plot
31. A research study showed that increase in age is associated with decrease in the bone mineral density and the increase in percentage greying of hair. On the basis of this information, which of the following statements CANNOT be true?
- Bone mineral density negatively correlates with age
 - Bone mineral density positively correlates with age
 - Percentage greying of hair positively correlates with age
 - Percentage greying of hair negatively correlates with bone mineral density
32. Carefully read the following words:
1. Vote, 2. Polling booth, 3. Campaign, 4. Minister.
The most meaningful order of arrangement is
- 4, 3, 1, 2
 - 3, 4, 1, 2
 - 3, 2, 1, 4
 - 2, 1, 3, 4
33. The function that is done by brain in human beings, the same function is done in computers by (Human : Brain :: Computer : ?)
- Hard disc
 - Random access memory
 - Central processing unit
 - Software
34. People are related to bus in the same way as oxygen is related to
(People : Bus :: Oxygen : ?)
- Lungs
 - Heart
 - Blood vessels
 - Red blood cells

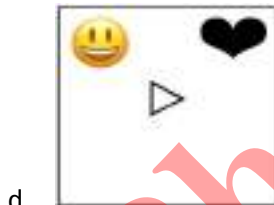
35. Which Venn diagram best describes the relationship between Earth, Venus, Sun and Planets?



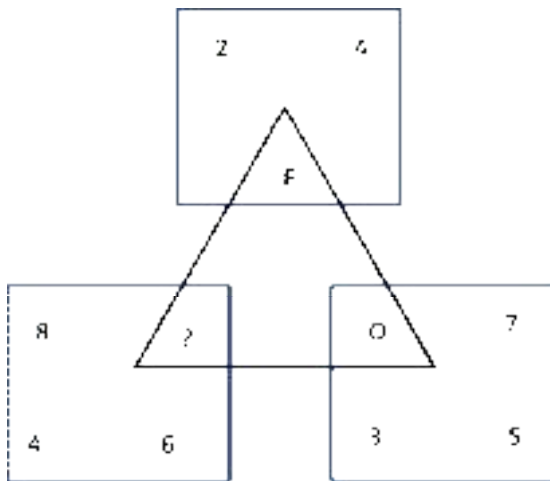
36. Carefully observe the sequences of images given below



Which of the following best fits in place of the question mark?



37. Which alphabet should replace the question mark?



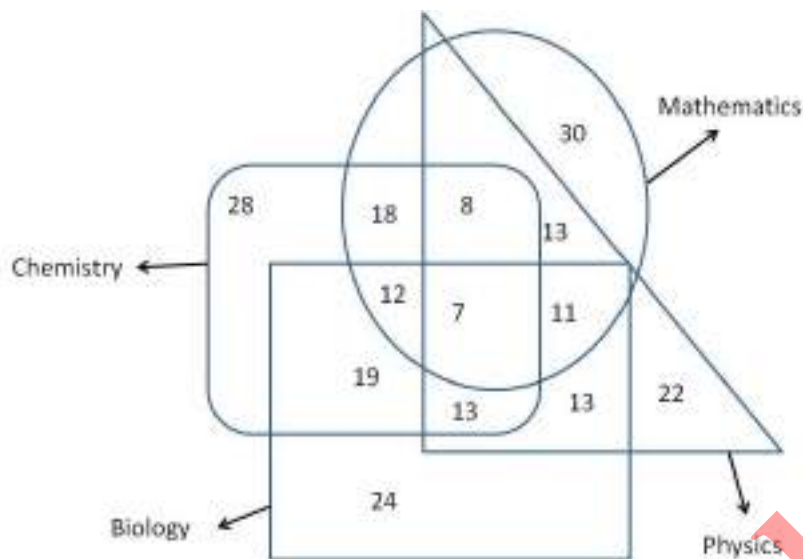
- a. X
- b. R
- c. S
- d. U

38. Carefully read the following words and choose the odd one out.

Fair, Just, Objective, Quiet, Impartial, Unbiased

- a. Just
- b. Quiet
- c. Unbiased
- d. Fair

39. The venn diagram given below shows the numbers of students obtaining a pass grade in the departments of physics, chemistry, mathematics and biology at a university.



- What is the total number of students who have obtained a pass grade in both Mathematics and Physics?
- 11
 - 13
 - 24
 - 39
40. Which of the following is related to resolution of a camera?
- Megapixel
 - Megabytes
 - Megabits
 - Megacam
41. Which of the following is NOT used for biometrics
- Iris scan
 - Finger print
 - DNA print
 - Retinal scan
42. In comparison to classroom teaching, the definitive advantage of online teaching is
- Accuracy of information
 - Accessibility
 - Personal touch
 - Collective learning

43. LED, LCD, CRT are the names related to different types of
- Monitors
 - Printers
 - Sound Systems
 - Semiconductors
44. An educational institution would generally have the following in its domain name
- .org
 - .edu
 - .inst
 - .com
45. Which contents are lost when the computer turns off?
- Storage
 - Input
 - Output
 - Memory
46. A word in a web page that, when clicked, opens another document is called
- Anchor
 - Hyperlink
 - Reference
 - URL
47. Personal computers can be connected together to form a
- Server
 - Supercomputer
 - Enterprise
 - Network
48. All of the following are input device for a computer EXCEPT
- Keyboard
 - Mouse
 - Touch pad
 - Printer

49. Amongst the computer applications listed below, pick the odd one out

- a. Zoom
- b. Meet
- c. Webex
- d. Whatsapp

50. The application best suited for database management is

- a. MS word
- b. MS excel
- c. MS powerpoint
- d. MS access

Paper-II Microbiology

51. Bacterial spores can be best demonstrated by

- a. Gram staining
- b. Negative staining
- c. Acid fast staining
- d. Albert staining

52. In which of the phase of bacterial growth curve bacteria reach their maximum size

- a. Lag phase
- b. Log phase
- c. Stationary phase
- d. Decline phase

53. Which of the following is most resistant to sterilization

- a. Tubercle bacilli
- b. Prions
- c. Viruses
- d. Bacterial spores

54. Which of the following is not true about ethylene oxide

- a. Is widely used gaseous chemical sterilant
- b. Has sporicidal activity
- c. Has high penetration power
- d. Less inflammatory

55. The colonies produced by *Pseudomonas* on Mac Conkey's medium are

- a. Purple colored
- b. Pink colored
- c. Pale colored
- d. Green colored

56. Mechanism of direct transfer of free DNA

- a. Transformation
- b. Conjugation
- c. Transduction
- d. Transposition

57. Recombinant DNA technology does not involve

- a. Use of restriction enzymes
- b. Southern blotting
- c. Northern blotting
- d. Cloning

58. All the following are exotoxins except

- a. Anthrax toxin
- b. Botulinum toxins
- c. Diphtheria toxin
- d. Lipopolysaccharides

59. All of the following are the RNA viruses except

- a. Corona virus
- b. Hepatitis A virus
- c. Polio virus
- d. Human adenovirus

60. All of the following are true about mucormycosis except

- a. Infection caused by fungus
- b. *Rhizopus oryzae* is the causative organism
- c. Hyaline hyphae seen on microscopy
- d. Sabouraud's dextrose agar is the media used for isolation of the organism from specimens.

61. Each of the following statements concerning *Giardia lamblia* is correct except:

- a. *G. lamblia* has both a trophozoite and cyst stage in its life cycle
- b. *G. lamblia* is transmitted by the fecal-oral route from both human and animal sources
- c. *G. lamblia* causes hemolytic anemia
- d. *G. lamblia* can be diagnosed by the string test

62. Agar concentration that is required for preparing Nutrient Agar is

- a. 6%
- b. 2%
- c. 0.25%
- d. 0.5%

63. The region where bacterial genome resides is termed as:

- a. Nucleus
- b. Ribosome free region
- c. Cytoplasm
- d. Nucleoid

64. Example of Anaerobic medium is

- a. Nutrient Agar
- b. Robertson cooked –meat medium
- c. Nutrient broth
- d. Mac-Conkey's Agar

65. Germ tube test is diagnostic for
- Klebsiella
 - Candida glabrata
 - Candida albicans
 - Cryptococcus
66. Holding temperature and time required for sterilization in Hot air oven is
- 200°C for 10 minutes
 - 100°C for 3 hours
 - 160°C for 2 hours
 - 400°C for 30 minute
67. Gram-positive cocci arranged in clusters are
- Streptococci
 - Staphylococcus
 - Micrococcus
 - Enterococcus
68. Following are Gram negative on staining except
- Escherichia coli
 - Corynebacterium
 - Klebsiella pneumoniae
 - Neisseria gonorrhoeae
69. The motile bacteria is
- S. typhi
 - K. pneumoniae
 - B. anthracis
 - Shigella
70. Best method for getting pure culture is
- Streak-plate
 - Agar slant
 - Both a & b
 - None of these
71. Coagulase test is done for identification of Escherichia coli
- Corynebacterium
 - Enterococcus
 - Neisseria gonorrhoeae
 - Staphylococcus aureus

72. Influenza virus belongs to

- a. DNA viruses
- b. RNA viruses
- c. Oncogenic viruses
- d. Haemorrhagic viruses

73. Triple Sugar Iron (TSI) agar contains all of the following except

- a. Sucrose
- b. Glucose
- c. Lactose
- d. Maltose

74. All of the following are diffusion methods for antimicrobial susceptibility testing except

- a. Broth dilution method
- b. Stokes
- c. E test
- d. Kirby Bauer

75. Glassware are sterilized by

- a. Autoclaving
- b. Hot air over
- c. Incineration
- d. None of these

76. Culture medium used for fungus is

- a. Sabouraud's medium
- b. Nutrient agar
- c. Nutrient broth
- d. Minimal agar medium

77. COVID-19 is an infectious disease caused by SARS-CoV-2, which is

- a. RNA virus
- b. Bacteria
- c. Fungus
- d. DNA Virus

78. "Black fungus" disease associated with COVID-19 is

- a. Aspergillosis
- b. Mucormycosis
- c. Candidiasis
- d. Histoplasmosis

79. Hospital acquired Infection is defined as infections occurring after ____ hours of hospital admission

- a. 24
- b. 48
- c. 72
- d. 120

80. Acid fast bacilli cause

- a. Tuberculosis
- b. Histoplasmosis
- c. Typhoid
- d. Malaria

81. India Ink is used for staining

- a. Staphylococcus
- b. Enterococcus
- c. Cryptococcus
- d. Pneumococcus

82. Not used in Gram's staining

- a. Methylene Blue
- b. Crystal violet
- c. Iodine
- d. Safranin

83. Widal test is used for

- a. Typhoid
- b. Syphilis
- c. Cholera
- d. Plague

84. Which of the following is not a Gram Positive cocci

- a. Staphylococcus
- b. Enterococcus
- c. Cryptococcus
- d. Streptococcus

85. Clostridium difficile associated diarrhea is caused by

- a. Trauma
- b. Dairy Products
- c. Fried rice
- d. Antibiotic use

86. Darting motility is characteristic of

- a. *E. coli*
- b. *K. pneumoniae*
- c. *Shigella dysenteriae*
- d. *Vibrio cholerae*

87. Most common Gram negative organism causing infections in a patient of cystic fibrosis is

- a. *Klebsiella*
- b. *Legionella*
- c. *Pseudomonas*
- d. *Vibrio*

88. Varicella Zoster Virus causes

- a. Small pox
- b. Chicken pox
- c. Hepatitis
- d. Diarrhea

89. Causative agent for cervical cancer

- a. Varicella Zoster Virus
- b. Human Immunodeficiency Virus
- c. Human Papilloma Virus
- d. Cytomegalovirus

90. Dog bite can lead to

- a. Rabies
- b. Rubella
- c. Polio
- d. Diphtheria

91. Which Hepatitis Virus is transmitted through feco-oral route

- a. A and C
- b. B and D
- c. A and E
- d. B and C

92. Kala-Azar is a disease caused by a

- a. Bacteria
- b. Virus
- c. Fungus
- d. Parasite

93. Most common Plasmodium species causing malaria in India are

- a. P. malariae and P. ovale
- b. P. vivax and P. falciparum
- c. P. malariae and P. falciparum
- d. P. vivax and P. ovale

94. DEC (Diethylcarbamazine) Provocation test is used for

- a. Malaria
- b. Filariasis
- c. Kala-azar
- d. Typhoid

95. Significant bacteriuria for Urinary tract Infection is defined as colony count of

- a. 10^2 colonies/ml
- b. 10^3 colonies/ml
- c. 10^4 colonies/ml
- d. 10^5 colonies/ml

96. Which virus is not transmitted by Needle stick injury

- a. HIV
- b. Hepatitis B
- c. Hepatitis C
- d. HPV

97. All of the following are enriched media except:

- a. Blood Agar
- b. Chocolate agar
- c. MacConkey Agar
- d. Loeffler's Serum Slope

98. All are Oncogenic viruses except:

- a. Hepatitis B
- b. Epstein Barr Virus
- c. Hepatitis C
- d. Yellow fever virus

99. Transformation is defined as:

- a. Process of random uptake of free or naked DNA from the surrounding and incorporating into bacterial chromosome
- b. Extrachromosomal circular DNA molecule that exists in free state in cytoplasm
- c. m RNA transcribed from DNA
- d. tRNA is attached at the start codon of m RNA

100. Disinfection is defined as:

- a. Process by which all microorganisms including viable spores are either destroyed or removed from an article or body surface, medium.
- b. Process that destroys or removes most if not all pathogenic organisms but not all bacterial spores.
- c. Inhibition of pathogenic microorganisms present on the skin.
- d. Reduction of pathogenic microbial population at a level safe to handle.

Answer Key

Q. No.	Answer
1	d
2	a
3	c
4	a
5	c
6	c
7	d
8	a
9	b
10	b
11	d
12	b
13	d
14	c
15	c
16	b
17	c
18	c
19	d
20	a
21	d
22	c
23	a
24	a
25	c

Q. No.	Answer
26	b
27	c
28	d
29	a
30	b
31	b
32	c
33	c
34	d
35	a
36	c
37	b
38	b
39	d
40	a
41	c
42	b
43	a
44	b
45	d
46	b
47	d
48	d
49	d
50	d

Q. No.	Answer
51	d
52	a
53	b
54	d
55	c
56	a
57	c
58	d
59	d
60	c
61	c
62	a
63	d
64	b
65	c
66	c
67	b
68	b
69	a
70	c
71	d
72	b
73	d
74	a
75	b

Q. No.	Answer
76	a
77	a
78	b
79	b
80	a
81	c
82	a
83	a
84	c
85	d
86	d
87	c
88	b
89	c
90	a
91	c
92	d
93	b
94	b
95	d
96	d
97	c
98	d
99	a
100	b