



**OFFICE OF THE ENGINEER-IN-CHIEF
PUBLIC HEALTH ENGINEERING DEPARTMENT
AIZAWL : MIZORAM**

**WRITTEN EXAMINATION : 2025
FOR THE POST OF**

**ANALYST (LAB)
(Regular)**

PAPER-II



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Code No: _____
(For Official Use)

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Signature of Invigilator

Roll No: _____
(To be filled in by Candidate)

SUBJECT (Part)	MARKS OBTAINED
Part-A Simple Arithmetic (50x2=100 marks)	
Part-B Basic Computer Knowledge (50x2=100 marks)	
Total Marks obtained (Full Marks-200)	

Signature of Candidate

Signature of Examiner

Signature of Invigilator

Instructions:

1. The question paper will also serve as the answer sheet. Candidates are required to answer Parts A, B, directly on the question/answer sheet using Tick (✓) Marks.
2. Time : 3 Hours

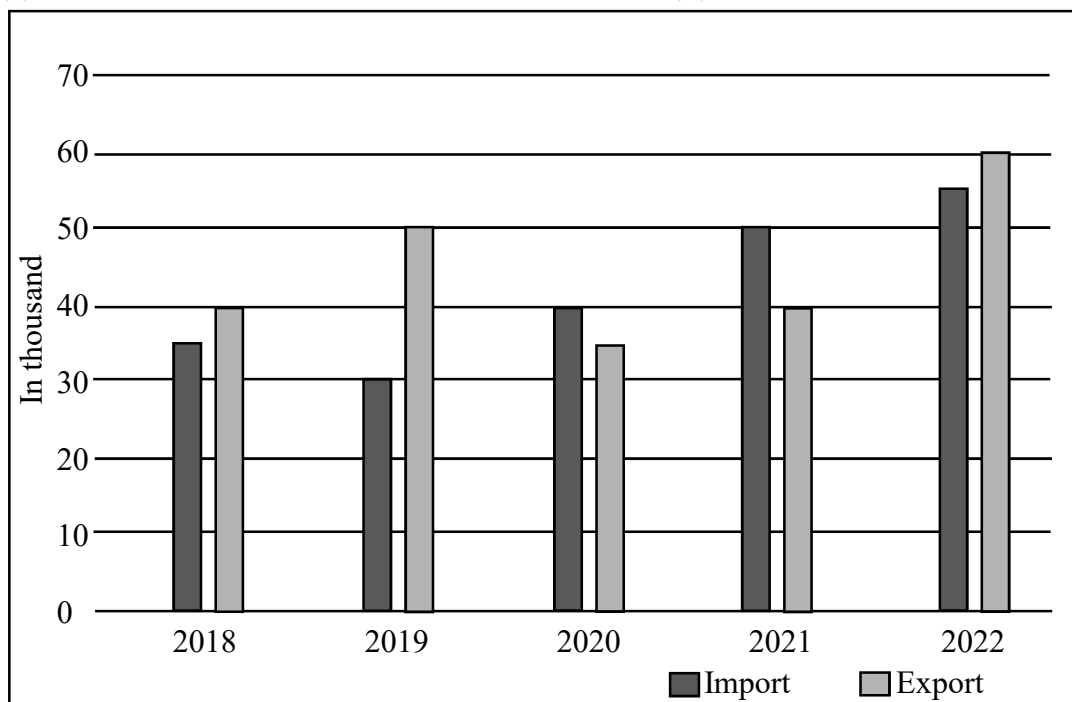
PART-A
SIMPLE ARITHMETIC (50X2=100 Marks)

1. Find the sum of : $-\frac{5}{6} + \frac{4}{9}$
(a) $-\frac{7}{18}$ ☐ (b) $\frac{7}{18}$ ☐
(c) $-\frac{1}{15}$ ☐ (d) None of these ☐
2. The additive inverse of $-\frac{6}{-7}$
(a) $\frac{6}{7}$ ☐ (b) $-\frac{6}{7}$ ☐
(c) $-\frac{7}{-6}$ ☐ (d) 1 ☐
3. Simplify : $\left(\frac{4}{7} + \frac{-8}{9} + \frac{-5}{21} + \frac{1}{3}\right)$
(a) $\frac{5}{9}$ ☐ (b) $\frac{7}{9}$ ☐
(c) $-\frac{2}{9}$ ☐ (d) $\frac{2}{9}$ ☐
4. Subtract $\frac{3}{4}$ from $\frac{1}{3}$
(a) $-\frac{5}{12}$ ☐ (b) $\frac{5}{12}$ ☐
(c) $\frac{7}{12}$ ☐ (d) None of these ☐
5. Find the reciprocal of 12
(a) - 12 ☐ (b) $\frac{1}{12}$ ☐
(c) $-\frac{5}{12}$ ☐ (d) 0 ☐
6. The square of an even number is _____
(a) odd ☐ (b) both odd and even ☐
(c) even ☐ (d) None of these ☐
7. The square root of 324 is _____
(a) 22 ☐ (b) 12 ☐
(c) 28 ☐ (d) 18 ☐
8. Which of the following is a perfect cube.
(a) 98 ☐ (b) 125 ☐
(c) 86 ☐ (d) 214 ☐
9. Find the cube of - 7
(a) 243 ☐ (b) - 373 ☐
(c) - 343 ☐ (d) 443 ☐
10. How many even numbers are prime?
(a) 10 ☐ (b) 8 ☐
(c) 3 ☐ (d) 1 ☐

11. A number is made of 2 digits. If 45 added to the number, the digit gets reversed. Find?
 (a) 13 ☐ (b) 27 ☐
 (c) 32 ☐ (d) 54 ☐
12. Simplify : $-3+3\div 3+3-3+3$
 (a) - 1 ☐ (b) 3 ☐
 (c) 1 ☐ (d) -3 ☐
13. $[16-\{5+4(4-2)\}]$ is equal to
 (a) 3 ☐ (b) 5 ☐
 (c) 7 ☐ (d) 4 ☐
14. A number when divided by 221 leaves 18 as remainder. If the same number is divided by 13, the remainder is _____
 (a) 6 ☐ (b) 5 ☐
 (c) 9 ☐ (d) 2 ☐
15. Find the average of 2.5, 3.5, 4.5, 5.5
 (a) 3.5 ☐ (b) 3 ☐
 (c) 4 ☐ (d) 8 ☐
16. The average of the first five multiple of 3 is _____
 (a) 10 ☐ (b) 12 ☐
 (c) 15 ☐ (d) 9 ☐
17. The mean of 7, 3, x and 8 is 6, then the value of x is _____
 (a) 6 ☐ (b) 7 ☐
 (c) 5 ☐ (d) 4 ☐
18. An article was bought for Rs 450 after a rebate of 10 %. Find the original price.
 (a) Rs 520 ☐ (b) Rs 500 ☐
 (c) Rs 550 ☐ (d) Rs 480 ☐
19. An item listed at Rs 2000 was sold for Rs 1500. Find the rate of Discount?
 (a) 15 % ☐ (b) 20 % ☐
 (c) 25 % ☐ (d) 18 % ☐
20. What percentage of 2.4 L is 120 mL?
 (a) 8% ☐ (b) 15% ☐
 (c) 10% ☐ (d) 5% ☐
21. Convert 16% into a fraction in simplest form
 (a) $\frac{4}{25}$ ☐ (b) $\frac{3}{25}$ ☐
 (c) $\frac{7}{25}$ ☐ (d) $\frac{9}{25}$ ☐
22. A man got a 10 % increase in his salary. His new salary is Rs. 10285. What was his original salary.
 (a) Rs 8520 ☐ (b) Rs 9350 ☐
 (c) Rs 9235 ☐ (d) Rs 7541 ☐
23. Convert 0.08 into a percentage
 (a) 3 % ☐ (b) 5% ☐
 (c) 8 % ☐ (d) 9% ☐
24. If 12% of a number is 15, what is 20% of the number
 (a) 25 ☐ (b) 30 ☐
 (c) 35 ☐ (d) 20 ☐

25. When Cost Price (CP) and gain % are given, Selling Price (SP) is equal to
 (a) $\frac{(100 + \text{Gain \%})}{100} \times \text{CP}$ ☐ (b) $\frac{(10 + \text{Gain \%})}{100} \times \text{CP}$ ☐
 (c) $\frac{(100 - \text{Gain \%})}{100} \times \text{CP}$ ☐ (d) $\frac{(100 + \text{Gain \%})}{100} \times \text{CP}$ ☐
26. Find the loss percent, when CP = Rs 80 and SP = Rs 76.80
 (a) 3% ☐ (b) 5% ☐
 (c) 4% ☐ (d) 8% ☐
27. On selling a table for Rs 987, Ramtea loses 6%. For how much did he purchase it?
 (a) Rs 1025 ☐ (b) Rs 1050 ☐
 (c) Rs 1080 ☐ (d) Rs 1060 ☐
28. In a ratio which is equal to 7 : 8, if the antecedent is 35. What is the consequent.
 (a) 40 ☐ (b) 35 ☐
 (c) 50 ☐ (d) 45 ☐
29. Divide Rs 171 between A and B in the ratio 2 : 7, A's share will be
 (a) Rs 50 ☐ (b) Rs 40 ☐
 (c) Rs 35 ☐ (d) Rs 38 ☐
30. If $5 : 7 :: 35 : x$, find the value of x
 (a) 49 ☐ (b) 65 ☐
 (c) 60 ☐ (d) 55 ☐
31. How much should be added to each term 4 : 7 so that it becomes 2 : 3
 (a) 1 ☐ (b) 2 ☐
 (c) 3 ☐ (d) 4 ☐
32. The three numbers are in the ratio 2 : 3 : 4. If the sum of their square is 1856, then the first number is
 (a) 18 ☐ (b) 13 ☐
 (c) 16 ☐ (d) 20 ☐
33. Kunga and Liana are partners and share profit in the ratio 2 : 1. They are joined by Para who is given one-fifth shared of the profit. The new profit ratio will be.
 (a) 3 : 2 : 1 ☐ (b) 4 : 3 : 2 ☐
 (c) 4 : 3 : 1 ☐ (d) 8 : 4 : 3 ☐
34. A and B invested in a business. The profit earned was divided in the raio 2 : 3. If A invested Rs 40000, the amount invested by B was
 (a) Rs 60000 ☐ (b) Rs 80000 ☐
 (c) Rs 50000 ☐ (d) Rs 35000 ☐
35. Hruaia and Piangtea can do the same piece of work in 10 days and 15 days respectively. If they work together, in how many days will the work be completed?
 (a) 4 days ☐ (b) 5 days ☐
 (c) 6 days ☐ (d) 8 days ☐
36. A stock of food grain is enough for 500 men for 8 weeks. How long will the same stock last for 400 men.
 (a) 9 Weeks ☐ (b) 10 Weeks ☐
 (c) 12 Weeks ☐ (d) 15 Weeks ☐
37. A train travelling at 72 km/h take 2 sec to enter 1 km long tunnel. How long will it take to pass completely through it?
 (a) 50 sec ☐ (b) 55 sec ☐
 (c) 52 sec ☐ (d) 45 sec ☐

38. A speed of 144 km/h is equal to
 (a) 40 m/s ☐ (b) 35 m/s ☐
 (c) 60 m/s ☐ (d) 20 m/s ☐
39. A speed of a car is 60 km/h. Distance travelled by it in 10 minutes is _____
 (a) 8 km ☐ (b) 10 km ☐
 (c) 15 km ☐ (d) 5 km ☐
40. Find the compound interest, when principal = Rs 6000, rate = 5% per annum and time = 2 years
 (a) Rs 512 ☐ (b) Rs 620 ☐
 (c) Rs 615 ☐ (d) Rs 716 ☐
41. Find the simple interest on Rs 10000 in 2 years at 9% per annum.
 (a) Rs 2500 ☐ (b) Rs 1500 ☐
 (c) Rs 2000 ☐ (d) Rs 1800 ☐
42. The perimeter of a rectangular plot of land is 80m and its breadth is 6m. Find the length of the plot
 (a) 24m ☐ (b) 20m ☐
 (c) 25m ☐ (d) 30m ☐
43. Find the area of a circle whose radius is 14cm
 (a) 540 cm² ☐ (b) 612 cm² ☐
 (c) 616 cm² ☐ (d) 720 cm² ☐
44. In how many ways can the word "LETTER" be arranged?
 (a) 180 ☐ (b) 185 ☐
 (c) 190 ☐ (d) 195 ☐
45. In how many ways can 5 persons occupy 3 seats?
 (a) 40 ☐ (b) 50 ☐
 (c) 60 ☐ (d) 70 ☐
46. The angle of elevation of a ladder leaning against a wall is 60° and the foot of the ladder is 4.6m away from the wall. the length of the ladder is
 (a) 9.2 m ☐ (b) 7.8 m ☐
 (c) 4.6 m ☐ (d) 2.3 m ☐



Direction (Question 47, 48, 49 and 50) : Study the following graph carefully and answer the questions that follow.

47. Difference between import and export during 2022 is _____
 (a) 4500 ☐ (b) 5000 ☐
 (c) 7000 ☐ (d) 9000 ☐
48. The ratio of total import to the total export for all the given years together is
 (a) 21 : 22 ☐ (b) 23 : 20 ☐
 (c) 20 : 23 ☐ (d) 14 : 15 ☐
49. For the years 2020, 2021 and 2022 together, total exports is what percent of the total imports for the three years?
 (a) 90 % ☐ (b) 97 % ☐
 (c) 93.10 % ☐ (d) 95 % ☐
50. Export is highest in the year _____
 (a) 2019 ☐ (b) 2022 ☐
 (c) 2021 ☐ (d) 2018 ☐

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PART-B
BASIC COMPUTER KNOWLEDGE : (50X2=100 Marks)

1. How did the computer mouse get its name?
 (a) Its cable looks like a tail ☐ (b) Because it squeaks when moved ☐
 (c) It has ears ☐ (d) Teeth outside mouth ☐
2. Where would you find the letters QWERTY?
 (a) Mouse ☐ (b) Keyboard ☐
 (c) Screen ☐ (d) Numeric Keypad ☐
3. Which key on keyboard of a computer does not have its name printed on the key?
 (a) ESC ☐ (b) SHIFT ☐
 (c) F1 ☐ (d) SPACE ☐
4. What is meant by a dedicated Computer?
 (a) Which is used by one person only ☐ (b) meant for application software ☐
 (c) Which is assigned one and only one task ☐ (d) Which uses one kind of software ☐
5. Personal Computers use a number of chips mounted on a main circuit board. What is the common name for such boards?
 (a) Daughter Board ☐ (b) Motherboard ☐
 (c) Father Board ☐ (d) Breadboard ☐
6. A byte represents a group of?
 (a) 10 bits ☐ (b) 40 bits ☐
 (c) 8 bits ☐ (d) 22 bits ☐
7. Resolution of laser printer is specified in terms of
 (a) DPI ☐ (b) LPM ☐
 (c) CPM ☐ (d) PPM ☐
8. The vast network of computers that connects million of people all over the world is called
 (a) LAN ☐ (b) Hypertext ☐
 (c) Web ☐ (d) Internet ☐
9. An error in software or Hardware is called a bug. What is the alternative computer jargon for it?
 (a) Leech ☐ (b) Squid ☐
 (c) Slug ☐ (d) Glitch ☐

10. The ALU of a computer responds to the commands coming from
 (a) Primary Memory ☐ (b) Control section ☐
 (c) External Memory ☐ (d) Cache Memory ☐
11. A storage area used to store data to compensate for the difference in speed at which the different units can handle data is
 (a) Memory ☐ (b) Buffer ☐
 (c) Accumulator ☐ (d) Address ☐
12. Instructions and memory address are represented by?
 (a) Character Code ☐ (b) Binary Code ☐
 (c) Binary Word ☐ (d) Parity bit ☐
13. If you want to secure a message, use a-
 (a) Cryptology Source ☐ (b) Encryption Key ☐
 (c) Encryption Software ☐ (d) Cryptosystem ☐
14. One MB is equal to
 (a) 1024 Byte ☐ (b) 1024 KB ☐
 (c) 1000 KB ☐ (d) 1024 GB ☐
15. Dot -Matrix, Deskjet, Inkjet and Laser are all types of which Computer peripherals-
 (a) Printers ☐ (b) Software ☐
 (c) Monitors ☐ (d) Keyboards ☐
16. Internet Explorer is a type of -
 (a) Operating System ☐ (b) Browser ☐
 (c) IP Address ☐ (d) Compiler ☐
17. AVI (Audio Video Interleave) format was developed by-
 (a) IBM ☐ (b) Apple ☐
 (c) Microsoft ☐ (d) Adobe ☐
18. ____ is the high speed memory used in the computer.
 (a) RAM ☐ (b) Hard Disk ☐
 (c) Cache ☐ (d) BIOS ☐
19. In a client/server model, a client program_____.
 (a) Ask for information ☐ (b) Provides information and Files ☐
 (c) Serves software files to other ☐ (d) Distributes data files to other ☐
20. Which one of the following is an example of Operating System
 (a) Microsoft Word ☐ (b) Microsoft Excel ☐
 (c) Microsoft Access ☐ (d) Microsoft Windows ☐
21. Which of the following is not used as secondary storage.
 (a) semiconductor memory ☐ (b) Magnetic Disks ☐
 (c) magnetic tapes ☐ (d) magnetic drums ☐
22. General purpose computers are those that can be adopted to countless uses simply by changing its-
 (a) Output Device ☐ (b) Input Device ☐
 (c) Program ☐ (d) None of these ☐
23. A collection of 8 bits is called
 (a) Byte ☐ (b) Record ☐
 (c) Word ☐ (d) Nibble ☐

24. A typical modern computer uses
 (a) Magnetic cores ☐ (b) LSI Chips ☐
 (c) 10,000 vacuum ☐ (d) Magnetic Tape ☐
25. The term memory applies to which one of the following-
 (a) Logic ☐ (b) Storage ☐
 (c) Input device ☐ (d) Output device ☐
26. The device primarily used to provide hardcopy is the-
 (a) CRT ☐ (b) Computer Console ☐
 (c) Printer ☐ (d) Card Reader ☐
27. Which of the following is the most powerful type of the computer?
 (a) Mainframe ☐ (b) Super Conductor ☐
 (c) Microcomputer ☐ (d) Super Computer ☐
28. Which of the following is true about primary storage?
 (a) It is a part of the CPU ☐ (b) It allows very fast access to data ☐
 (c) It is relatively more expensive ☐ (d) All of the above ☐
29. A list of instructions used by a computer is called-
 (a) Text ☐ (b) CPU ☐
 (c) Program ☐ (d) Output ☐
30. The process of copying data from a memory location is called-
 (a) Writting ☐ (b) Controlling ☐
 (c) Booting ☐ (d) Reading ☐
31. The process of putting data into a storage location is called-
 (a) Reading ☐ (b) Writting ☐
 (c) Controlling ☐ (d) Hand Shaking ☐
32. Which of the following is the product of data processing?
 (a) Information ☐ (b) Data ☐
 (c) Software Program ☐ (d) System ☐
33. Which one is not an input device?
 (a) Keyboard ☐ (b) Mouse ☐
 (c) Speaker ☐ (d) Scanner ☐
34. DNS in internet technology stand for-
 (a) Distributed Name System ☐ (b) Data Name System ☐
 (c) Dynamic Name System ☐ (d) Domain Name System ☐
35. Memories which can be read only are called -
 (a) RAM ☐ (b) ROM ☐
 (c) DRAM ☐ (d) Virtual Memory ☐
36. CPU Controls-
 (a) All Input, output and processing ☐ (b) Controls memory ☐
 (c) Control input data ☐ (d) None of the above ☐
37. USB Stand for-
 (a) Universal Serial Bus ☐ (b) Universal Sequential Bus ☐
 (c) Unique Serial Bus ☐ (d) Unique Sequential Bus ☐

38. ALU Stand for -
 (a) Arithmetic Legal Unit ☐ (b) Arithmetic Logic Unit ☐
 (c) Arithmetic Local Unit ☐ (d) Arithmetic Logic Utility ☐
39. CPU Stands for-
 (a) Central Performance Unit ☐ (b) Control Processing Unit ☐
 (c) Common Processing Unit ☐ (d) Central Processing Unit ☐
40. Which of the following holds the ROM, RAM, CPU?
 (a) Hard Disk ☐ (b) ALU ☐
 (c) Mother Board ☐ (d) None of the above ☐
41. A technique used by codes to convert an analog signal into a digital bit stream is known as
 (a) Digital Signal Generator ☐ (b) Pulse Code Modulation ☐
 (c) Pulse Signal Modulation ☐ (d) None of these ☐
42. An optical input device that interprets pencil marks on paper media is -
 (a) Magnetic Tape ☐ (b) Optical Scanner ☐
 (c) Punch Card Reader ☐ (d) O.M.R ☐
43. What does DRAM stands for -
 (a) Data Random Access Memory ☐ (b) Data Random Active Memory ☐
 (c) Dynamic Random Access Memory ☐ (d) Double Random Active Memory ☐
44. What technology of memory is Cache RAM usually?
 (a) DRAM ☐ (b) Flash ☐
 (c) SRAM ☐ (d) EEPROM ☐
45. Where is Computer BIOS stored?
 (a) DRAM ☐ (b) Flash ☐
 (c) SRAM ☐ (d) EEPROM ☐
46. Where does your PC store your programs when the power off?
 (a) DRAM ☐ (b) Cache ☐
 (c) ROM ☐ (d) Hard Disk Drive ☐
47. What is PCI (Peripheral Component Interconnect)
 (a) A type of Monitor ☐ (b) A type of System Bus ☐
 (c) A kind of graphics ☐ (d) Modem standard ☐
48. Which company is not a microprocessor manufacture?
 (a) IBM ☐ (b) AMD ☐
 (c) Microsoft ☐ (d) Intel ☐
49. LAN Stand for-
 (a) Last affordable Network ☐ (b) Leased Area Network ☐
 (c) Latency Around Network ☐ (d) Local Area Network ☐
50. A wireless technology built in electronic gadgets used for exchanging data over short distances is -
 (a) USB ☐ (b) Bluetooth ☐
 (c) Modem ☐ (d) Wi-fi ☐

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