



Ocean University of Sri Lanka

Aptitude Test 2024/2025

BSc.(Hons) in Marine Engineering



NIC No:

Index No:

Time Allowed: Two hours (02 hours)

Date: 26/10/2024

INSTRUCTIONS:

- Answer all the questions on this paper itself
- Use a dark pencil/black or blue ball point pen to answer questions
- Calculators are not allowed

SECTION A -GENERAL KNOWLEDGE – (25 Marks)

1. What is the weight of a human eye?
a) 8 g b) 12 g c) 15 g d) 25 g
2. Which country is the largest producer of onion?
a) China b) Bangladesh c) India d) Japan
3. Which country is the largest producer of coffee?
a) Argentina b) United State c) Brazil d) Sri Lanka
4. When did man first land did the moon?
a) 1969 b) 1970 c) 1972 d) 1968
5. In which country did demonetization happen first
a) America b) Italy c) China d) Ghana
6. Which animal's milk never curdles?
a) Camel's b) Buffalo's c) Cow's d) Goat's

7. Which is the oldest game in the world?
a) Football b) Elle c) Ludo d) Wrestling
8. When was google established?
a) 2000 b) 1999 c) 1998 d) 1997
9. Who has Kohinoor Diamond?
a) China b) Sri Lanka c) Britain d) America
10. Which musical instrument has 88 keys?
a) Xylophone b) Piano c) Saxophone d) Violin
11. Which planet has the longest day in our solar system?
a) Earth b) Mars c) Venus d) Mercury
12. Which continent has the most countries?
a) Africa b) Europe c) Asia d) America
13. What is the hardest natural substance among below?
a) Gravel b) Diamond c) Ivory d) Iron
14. How many stars are on the Chinee's flag?
a) 5 b) 2 c) 4 d) 6
15. What are the four main blood groups in humans?
a) A, B, C, D b) A, AB, B, O c) A, B, Q, O d) A, B, AA, BB
16. Who was the first president of the United States of America?
a) Thomas Jefferson b) George Washington c) Abraham Lincoln d) Ronald Reagen
17. Which river runs through Egypt?
a) The Nile b) The Mississippi c) The Seine d) The Tokachi

18. Which of these countries is in Asia?
a) Laos b) Chile c) Angola d) Belgium
19. Which of these colors is not a primary color?
a) Red b) Blue c) Green d) Yellow
20. Which country was the first to invent paper?
a) France b) Greece c) China d) Rome
21. How long does it take for sunlight to reach Earth?
a) 8 days b) 8 hours c) 8 minutes d) 8 seconds
22. How many volumes are there in the Harry Potter series?
a) 9 b) 6 c) 7 d) 5
23. In which year did Christopher Columbus discover America?
a) 1515 b) 1387 c) 1492 d) 1388
24. In which country were the 2024 Olympics held?
a) Brazil b) France c) Australia d) Italy
25. Which gas is known as laughing gas?
a) Nitrous Oxide b) Oxygen c) Hydrogen d) Helium

SECTION B -IQ TEST – (25 Marks)

1. Work motivation can be defined as the level of intensity, direction and persistence of employees' effort to achieve organizational goals. Select the best definition/s to define the motivation from the list below,
- A. How hard you will try to achieve your goals
B. Is your effort in the right direction or do you invest your effort in right activities
C. How long will you maintain effort in the same level to attain your goal
- a) A and B only (b) C only (c) B and C only (d) A, B and C

2. Select the correct order considering the basic hierarchy of humans wants and needs (Maslow's hierarchy at workplace)

- A. Physiological; air, sleep, food, hunger, thirst, warmth
- B. Love and belonging; love, affection, family and relationships
- C. Safety and security; shelter, protection, safety and stability
- D. Esteem; self-esteem, status, reputation
- E. Self Actualization

a) A → B → C → D → E (b) A → C → B → D → E (c) A → C → B → E → D (d) A → B → E → C → D

3. Goal setting theory has been recognized as one of the most valid and practical theories of motivation. Managers have to provide motivation for their employees more effectively through goals. Which will be the incorrect statement regarding the organizational goal setting process

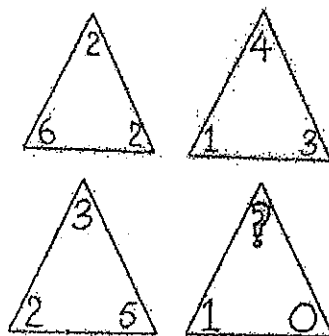
- (a) Employees will be more committed towards their goals if they participate in the goal setting process
- (b) Goal achievement is higher when employees are self-confident about their capabilities relating to goal achievement.
- (c) Feedback is not an essential factor to enhance the goal achievement process and therefore managers should not provide timely and constructive feedback to employees.
- (d) Goals must be moderately difficult and therefore too easy goals or too hard goals will not help to employ motivation.

4. Find the missing number in the figure given below

2	8	7	6
9	5	9	5
9	7	4	?

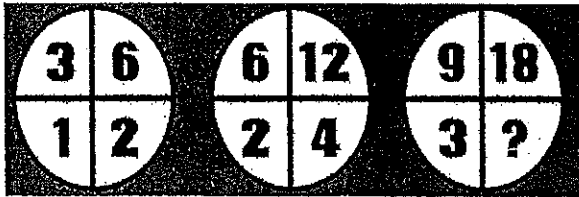
- a) 5 b) 7 c) 9 d) 11

5. Find the missing number in the figure given below



- a) 1 b) 2 c) 3 d) 4

6. What number should replace the question mark?



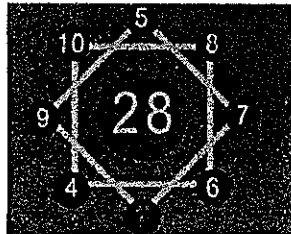
- a) 6 b) 3 c) 4 d) 9

7. What number comes next in the series?

3, 7, 21, 4, 8, 32, 5, 9,.....?

- a) 41 b) 14 c) 45 d) 43

8. Which number is missing?



- a) 9 b) 3 c) 7 d) 11

9. Which three numbers are missing?

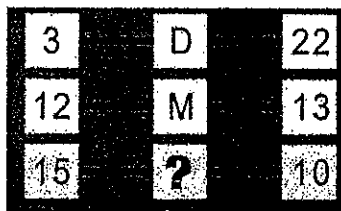
15, 5, 8, 24, 21, 7, 10, 30, ?, ?, ?, 36, 33

- a) 21,7,10 b) 27, 9, 12 c) 27, 3, 6 d) 33, 12, 9

10. LOB is to ORE, as ORB is to?

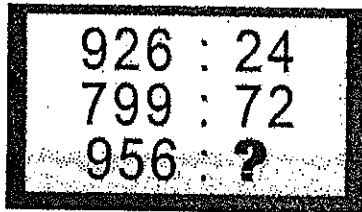
- a) RED b) ROB c) RUE d) RUT

11. What letter should replace the?



- a) E b) P c) R d) S

12. What number should replace the “?”



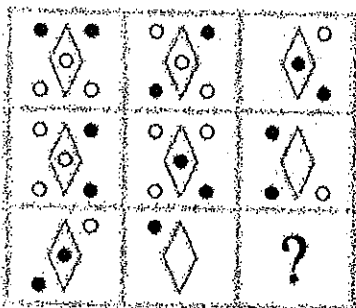
- a) 51 b) 56 c) 36 d) 3

13. Which value is missing?

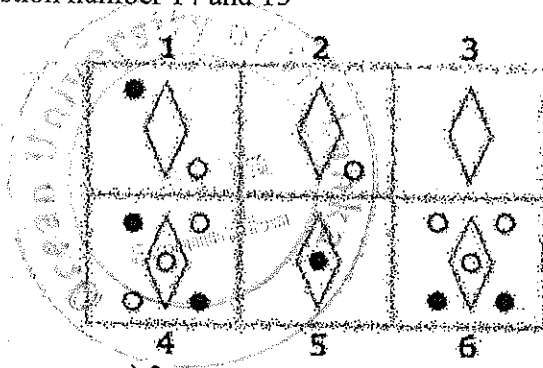


- a) T:36 b) S:30 c) U:38 d) V:36

14. Select the correct figure for ? of question number 14 and 15

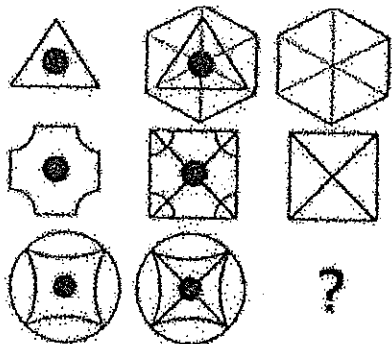


- b) 1 b) 5

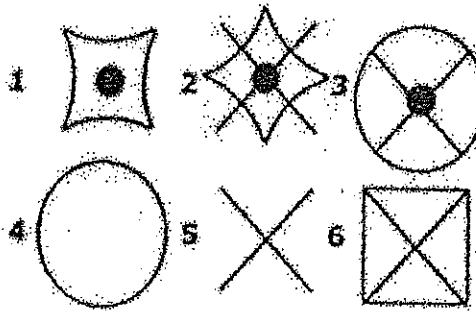


- c) 3 d) 6

15.



- a) 6 b) 5



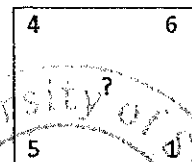
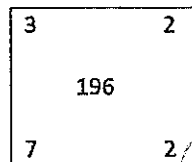
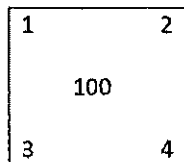
- c) 3 d) 1

16. If BANANA is to NANABA, then 46251 is to,

- a) 26415 b) 51462 c) 12854 d) 15264

17. If someone gives you 3 cookies and instructs you to eat one every 30 minutes, how long will it take you to eat all the cookies?
- a) 1 hr b) 2 hrs c) 1 hrs and 30 min d) 2 hrs and 30 min
18. Baker received 40 cake orders and it took 45 minutes to bake and decorate $\frac{1}{4}$ of the orders. How many cakes can be done in 1 hour and 30 minutes?
- a) 10 cakes b) 20 cakes c) 30 cakes d) 40 cakes
19. Which of the following sentences is different from the others?
- a) Hand me the bag, please b) I am performing at 2 o' clock
c) Close the door when you leave d) Put out the fire
20. The sum of all the ages of four family members is 85. Calculate the sum of their ages together in 5 years?
- a) 90 b) 95 c) 100 d) 105

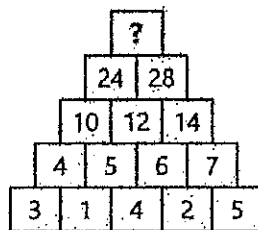
21. Find the missing number in “?”



- a) 156 b) 256 c) 200 d) 159

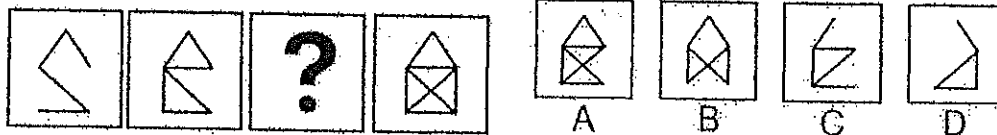
22. Five college students together rented a house. One of them decided to move out earlier and now their rent would be \$260 higher for each remaining tenant. How much is the total rent considering the rent is shared equally among students?
- a) \$ 5,200 b) \$ 3,120 c) \$ 2,600 d) \$ 2,340

23. Calculate the missing number



- a) 55 b) 56 c) 57 d) 60

24. Detect the missing pattern in “?”



a) A

b) B

c) C

d) D

25. Mary spends $\frac{1}{3}$ of her 24-hour day at work. Meetings take $\frac{1}{4}$ of her workday. How many hours does she spend in meetings?

1 hour 30 minutes

b) 2 hours

c) 2 hours 30 min

d) 3 hours

SECTION C -SUBJECT KNOWLEDGE - (25 Marks)

Write short answers for questions from question no 1 to 8

1. Your father's car has forward and reverse gears. How does a ship reverse?

2. Name the Organization that you need to contact to obtain continuous discharge certificate (CDC)?

3. Suppose you have selected for the Marine Engineering degree course. When you finish the course, what will be the rank you join first on ship?

4. If the captain cannot navigate his ship into a Port as he does not know the Port. Then who is the person brings the ship into Port?

5. In a motor car the engine drives the tires for car to move and travel. In a ship what drives the ship forward?

6. In what unit is a ships speed measured?

7. On a sea going ship who is in charge of navigation of ship and who is in charge of the ship engine?

8. Name three (03) types of ships and what cargo they carry?

9. What word can be used to describe when a solid turns into a liquid?

- a) Melting b) Evaporation c) Solidification d) Condensation

10. How many even prime numbers are there?

- a) 2 b) 7 c) 1 d) 0

11. What unit of measurement is a light year?

- a) Speed b) Time c) Distance d) Light

12. What is the best electrical conductor?

- a) Gold b) Silver c) Copper d) Carbon

13. What is Sodium Chloride?

- a) Water b) Pepper c) Salt d) Soap

14. Which gas is the most abundant in the Earth's atmosphere?

- a) Hydrogen b) Carbon c) Oxygen d) Nitrogen

15. In thermodynamics, entropy is a measure of:

- a) Energy conservation b) Disorder or randomness c) Force d) Momentum

16. The bending moment at the fixed end of a cantilever beam is

- a) Maximum b) Minimum c) Zero d) Uniform

17. The area under the curve $y = x^2$ between $x=0$ and $x=2$ is

- a) 8 b) $\frac{8}{3}$ c) 4 d) There's no answer

18. Evaluate the limit $\lim_{x \rightarrow 0} \frac{\sin(5x)}{x}$

- a) 1 b) 5 c) 0 d) infinity

19. The root of the equation $x^2 - 4x + 4 = 0$
- a) Real and distinct b) Real and equal c) Complex d) Imaginary
20. Block of mass 2kg slides down a frictionless incline of 30 degrees. What is the acceleration of the block in m/s^2 ?
- a) 4.9 b) 9.8 c) 5.6 d) 3.3
21. The equilibrium constant for a reaction increases with:
- a) Increase in temperature for an exothermic reaction
 b) Increase in temperature for an endothermic reaction
 c) Decrease in temperature for an endothermic reaction
 d) Increase in concentration of reactants
22. Which of the following is used to calculate a ship's hydrostatic stability?
- a) Metacentric height b) Moment of inertia c) Specific gravity d) Froude number
23. In a ship's diesel engine, what is the function of the turbocharger?
- a) To cool the engine b) To increase engine power by compressing intake air
 c) To reduce emissions d) To improve fuel efficiency by reducing drag
24. In which of the following reaction is ammonia (NH_3) acting as a Lewis base?
- a) $NH_3 + HCl \rightarrow NH_4^+ + Cl^-$ b) $NH_3 + O_2 \rightarrow NO + H_2O$
 c) $NH_3 + Cu^{2+} \rightarrow [Cu(NH_3)_4]^{+2}$ d) $NH_3 + H_2SO_4 \rightarrow (NH_4)_2SO_4$
25. If $f(x) = e^x$, what is the second derivative of $f(x)$
- a) e^x b) xe^x c) 0 d) x^2e^x

SECTION D - ENGLISH LANGUAGE - (25 Marks)

From 1 to 10 questions underline the correct word from those given within brackets to fill in the blanks in the following text

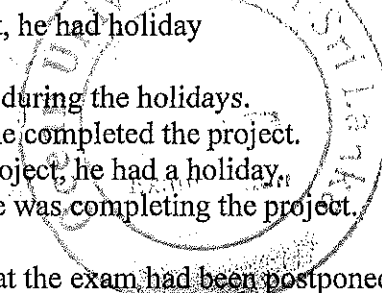
Cristopher William Wijecoon Kannangara (1).....(were, was, is) born on October 13,1884 at Randombe in Ambalangoda. He (2).....(had, has, have) his early education in Wesleyan High school(3).....(from, in, on) Aambalangoda. HE was a child of 12 years (4).....(which, while, when) his father lost his job. This was a big blow to

(5)..... (his, himself, him) a lot during his school education. Perhaps experience in his young days might have introduced Dr. C.W.W.Kannangara to (9).....(fought , fight, fighting) so bravely for free education in his later years for the benefit of poor children. Kannangara was regarded as (10) (a, the, an) excellent all-round student at Richmond who captained Richmond college in first eleven cricket in 1903, and was a member of the school soccer team the same year.

From 11 to 15 questions underline the correct word those given within bracket

11. A boy's behavior is called his (character, conduct, progress)
12. The sound from a piano (go, range, sing) from a very low note to a very high note.
13. A room underground is generally a (den, scullery, cellar)
14. When things are quiet, they are (peaceful, happy, lucky)
15. A devoted friend is kind and (fortunate, faithful, selfish)

From 16 to 20 questions underline the option that best expresses the meaning of each of the sentences given below

16. Having completed his project, he had holiday
 - a) He completed the project during the holidays.
 - b) He had a holiday before he completed the project.
 - c) After he completed his project, he had a holiday.
 - d) He had a holiday while he was completing the project.
17. It is Ramithu who told me that the exam had been postponed.
 - a) I didn't know that the exam had been postponed until Ramithu told me.
 - b) I told Ramithu that the exam had been postponed.
 - c) Ramithu knew that the exam had been postponed but he didn't tell me.
 - d) I knew that the exam had been postponed before Ramithu told me.
18. Despite keeping hopes for living, at least he failed
 - a) As didn't kept hopes, he died.
 - b) He was able to fight with dead and still alive.
 - c) He would have lived if he had kept hopes.
 - d) Though he wanted to live he died at last.
19. Having completed her project, she had a holiday
 - a) She had a holiday before she completed the project
 - b) After she had completed the project, she had a holiday
 - c) She had a holiday while she was completing the project
 - d) She completed the project during the holidays

20. There are hardly any toffees left in the bottle

- a) There are hard toffees left in the bottle
- b) There are no toffees in the bottle
- c) Some toffees are in the bottle
- d) There are only a few toffees left in the bottle

From 21 to 25 questions underline the most suitable word within brackets

Man can only in the lap of nature. "Nature never did betray the heart that loved her" says William Words Worth. We owe our very (21) (exists/existence/existing) to nature. She feeds and (22) (nourishes/nourished/nourishment) us. She is indeed a never-falling mother and friend. Naturally man should take care of her. He must endeavor to (23) (conserve/conserved/conservation) her. How ever reality tells us a sad tale. Nature suffers a (24) (seriously /serious/ seriousness) set back at the hands of man. Forests are on the vane and the level of pollution due to (25) (industry/industrial/ industrialization) is increasing alarmingly. Because of the atomic tests and explosions, the ecological balance is badly affected.

--- End of the paper--