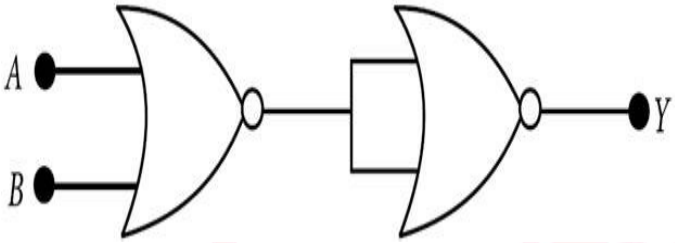
Date :-21/01/2022 **Time :-30 Minutes** **Exam Name :-NEET-1to1Guru-3** **Mark :- 80**

1. A force of $98\,N$ is required to just start moving a body of mass $100\,kg$ over ice. The coefficient of static friction is

(a) 0.6 **(b)** 0.4 **(c)** 0.2 **(d)** 0.1

2. In the following circuit, the output Y for all possible inputs A and B is expressed by the truth table.



(a)

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

(b)

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

(c)

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

(d)

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

3. In a triode valve, the plate resistance is 10000 Ω and the anode load resistance is 30000 Ω . If the amplification factor is 36, then the voltage gain is

(a) 9 **(b)** 27 **(c)** 36 **(d)** 108

4. The pendulum bob has a speed of 3ms^{-1} at its lowest position. The pendulum is 0.5 m long. The speed of the bob, when the length makes an angle of $60°$ to the vertical will be $(g = 10\ \text{ms}^{-2})$

(a) $\frac{1}{2}\ \text{ms}^{-1}$ **(b)** $\frac{1}{3}\ \text{ms}^{-1}$ **(c)** $3\ \text{ms}^{-1}$ **(d)** $2\ \text{ms}^{-1}$

5. Two point objects of masses $1.5\,g$ and $2.5\,g$ respectively are at a distance of $16\,cm$ apart, the centre of gravity is at a distance x from the object of mass $1.5\,g$ where x is

(a) $10\,cm$ **(b)** $6\,cm$ **(c)** $13\,cm$ **(d)** $3\,cm$

6. The conjugate acid of CO_3^{2-} is:

(a) H_2O **(b)** H_2CO_3 **(c)** OH^- **(d)** HCO_3^-

7. Identify B in the following reaction,

$$H_4SiO_4 \xrightarrow[-H_2O]{1000°C} A \xrightarrow[\Delta]{\text{Carbon}} B + CO$$

(a) Corundum **(b)** Quartz **(c)** Silica

(d) Carborundum

8. When the pH of a solution is 2, the hydrogen ion concentration is:

(a) $1 \times 10^{-14}\,M$ **(b)** $1 \times 10^{-2}\,M$ **(c)** $1 \times 10^{-7}\,M$

(d) $1 \times 10^{-12}\,M$

9. The precipitation is noticed when an aqueous solution of HCl is added to an aqueous solution of:

(a) $NaNO_2$ **(b)** $Ba(NO_3)_2$ **(c)** $ZnSO_4$ **(d)** $HgNO_3$

10. Which of the following has the maximum number of unpaired electrons?

(a) Mg^{2+} **(b)** Ti^{3+} **(c)** Fe^{2+} **(d)** V^{3+}

11. Actively moving organisms in aquatic ecosystem are

(a) Nekton **(b)** Benthos **(c)** Viruses

(d) None of these

12. The following reaction represents α - ketogulataric acid + $NH_4^+ + NADPH \xrightarrow[\text{dehydrogenose}]{\text{Glutamate}}$ Glutamate + $H_2O + NADP$

(a) Reductive amination **(b)** Transamination

(c) Amination **(d)** Nitrification

13. Name the elements, which occur in nucleic acid macromolecule?

(a) C, H, O, N, S **(b)** C, O, N, S **(c)** C, O, P, S

(d) C, H, O, N, P

14. Genes when present in homozygous condition results in non viable progeny, the factor responsible for such conditions are

(a) Polygenes **(b)** Linked genes **(c)** Lethal genes

(d) Epistatic genes

15. Which of the following is commonly used as a vector for introducing a DNA fragment in human lymphocytes? (NEET 2018)

(a) Retrovirus **(b)** Ti plasmid **(c)** λ phage

(d) pBR322

16. In which one of the following preparations, you likely to come across cell junctions most frequently?

(a) Ciliated epithelium **(b)** Thrombocyte

(c) Tendon **(d)** Hyaline cartilage

17. First hormone produced artificially by culture bacteria, is

(a) Insulin **(b)** Thyroxine **(c)** Testosterone

(d) Adrenaline

18. Digestive enzymes are

(a) Hydrolases **(b)** Oxidoreductases

(c) Transferases **(d)** Lyases

19. The leaves are modified into spines in

(a) *Nepenthes* **(b)** *Opuntia* **(c)** Australian *Acacia*

(d) *Utricularia*

20. Nitrogen is present in the soil in the form of I. Nitrates II. Ammonical salts II. Nitrite IV. None of these

(a) Only I **(b)** Only III **(c)** I and II **(d)** Only IV