R.D. ENGINEERING COLLEGE,GHAZIABAD

PUSHPLATA SCHOLARSHIP SCHEME(DETAILS)

Session: 2022-23

S.NO	ROLL NO	NAME	FATHER'S NAME	BRANCH	YEAR	TOTAL FEE (Rs)	CONCESSION PROVIDED (Rs)
1	2202310100102	Tania	Pradeep Kumar	CS	1st	55000	15000
2	2202310100112	Vanishka Aggarwal	Arun Kumar	CS	1st	55000	15000
3	2202311540003	Aman Kumar	Ranvir Singh	CS-DS	1st	55000	15000
4	2202311550006	Ankur	Narender	CS-IOT	1st	55000	15000
5	2202311530046	Mohd. Adnan	Mohammad Umar	CS-AIML	1st	55000	15000
6	2202310130033	Murly	Inderpal Singh	IT	1st	55000	15000
7	2202310130038	Rishi Mishra	Ranjeet Mishra	IT	1st	55000	15000
						Total concession Provided :	₹ 105,000

Registrar
R.D. Engineering College
Ghaziabad

R.D. Engineering College
Head
ASH

Director
R.D. Engineering College

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2022-23)

29/30

Name of Applicant: - Aman Kumar

Father's Name: - Mr. Ranvir Singh

Branch (to be opted):- CS-DS

Note:- Attempt all Questions. Each question is of 1 mark.

1. If the 5th term of an arithmetic progression is 17 and the 9th term is 37. What is the 1st term?
(a) -6 (b) -3 (c) 0 (d) 3

2. A die is thrown. Let A be the event that the number obtained is greater than 3. Let B be the event that the number obtained is less than 5. Then P (A ∪ B) is
(a) 3/5 (b) 0 (c) 1 (d) 5/2

3.If Cos x + sin x =a then the value of cos 2x is

(a) a (b) $a\sqrt{2-a}$ (c) $a\sqrt{2+a}$ (d) a^2-1

4.If $(1+\sqrt{1+x})\tan x = 1+\sqrt{1+x}$ then sin 4x =

(a) 4x (b) 2x (c) x (d) none of these

5. For the real value of cos $\theta = x+\frac{1}{x}$ then

(a) θ is acute angle (b) θ is obtuse angle (c) right angle (d) none of these

6. If tan $\alpha = \frac{1}{7}$, tan $\beta = \frac{1}{3}$, then cos 2α =

(a) Sin 2β (b) Sin 4β (c) Sin 4β (d) cos2β

7. The value of $2018\int_0^1 \frac{e^{\cos \pi x}}{e^{\cos \pi x}+e^{-\cos \pi x}}dx$ is

(a) 1008 (b) 1009 (c) 2017 (d) 2000

Head ASH, R.D. Engineering College

Dean Academics, R.D. Engineering College, Duhai, Ghaziabad

Registrar, R.D. Engineering College, Ghaziabad

Director, R.D. Engineering College, Duhai

8. If $2^x + 2^y = 2^{x+y}$ then $\frac{dy}{dx}$ at x = 1= y

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

9. Derivative of $\cos^{-1}\left(\frac{x^{-1}-x}{x^{-1}+x}\right)$ at x= -1 is

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

10. A number is chosen form among the first 30 natural numbers. The probability that the number is a prime number is

(a) $\frac{1}{3}$ (b) $\frac{3}{10}$ (c) $\frac{1}{30}$ (d) $\frac{11}{30}$

11.The value of gravitational acceleration on Earth is

(a) 9.8 m/s (b) 9.8 m/s^2 (c) 8.9 m/s (d) 8.9 m/s^2

12.What would be the height of an artificial satellite so that it remains stationary with respect to earth's surface

(a) 36000 km above the earth surface (b) 40000 km above the earth surface

(c) 26000 km above the earth surface (d) 63000 km above the earth surface

13.The value of gravitational acceleration

(a) increases as height increases from the earth. (b) decreases as height increases from the earth.

(c) remains constant. (d) None of the above

14.The centripetal force required by the artificial satellite to revolve around earth is provided by

(a) fuel contained in the satellite (b) gravitational force due to sun

(c) gravitational force due to earth (d) Thrust produced by burning fuel

15.In which region of earth the weight of a body is slightly greater than the other regions?

(a) At polar region (b) At equator (c) Tropic of Cancer (d) None of this

16.What is the value of the escape velocity of earth? (a) 9.8 km/sec (b) 10 km/sec (c) 11.2 km/sec (d) 12 km/s

17.How much time does a polar satellite take to complete one revolution around earth?

(a) 1 hour 30 min (b) 2 hours (c) 2 hour 20 min (d) 3 hour

18.In case of a planet's motion on its circular orbit

(a) its velocity remains constant in its orbit (b) its angular velocity remains constant

(c) its total angular momentum remains constant. (d) radius of orbit remains constant.

19.If the radius of earth is decreased keeping its mass constant, then the length of day will

(a) decrease (b) Increase (c) remain same (d) cannot say

20.If the earth would stop rotating then the weight of an object on north pole will

(a) increase (b) decrease (c) remain same (d) be zero

21. Producer gas is defined as which of the following mixtures?
a) carbon dioxide and hydrogen b) carbon monoxide and hydrogen
c) carbon monoxide and nitrogen d) carbon dioxide and nitrogen
22. When two perfect solutions with volume V each are combined, What is the volume of the solution as a result?
a) V b) 2V
c) Greater than 2V d) Less than 2V
23. The heat of solution or mixing has a negative side.
a) Heat of solution b) Heat of dissolution
c) Heat of reaction d) Heat of mixing
24. A solution made up of numerous components in which each component's property is the weighted sum of its sepa properties. The answer is
a) Ideal Solution b) Non-Ideal solution
c) Real Solution d) None of the mentioned
25. What is an example of camphor in N2 gas?
a) Solid in gas solution b) Gas in gas solution
c) Solid in liquid solution d) Liquid in gas solution
26. What makes a solution?
a) Solute and solvent b) Solute and solute
c) Solvent and solvent d) None of the above
27. What is the class of the substitution product of LiAlH4 and an alkyl halide reaction?
a) Haloalkane b) Alkyl nitrite
c) Nitroalkane d) Hydrocarbon
28. Which of the following statements about SN2 mechanisms is incorrect?
a) The transition state is stable
b) The complete mechanism takes place in a single step
c) The rate of the reaction depends on the concentration of both reactants
d) There is an inversion of configuration
29. What is 3-Bromopropene's common name?
a) Allyl bromide b) Vinyl bromide
c) Tert-Butyl bromide d) Propylidene bromide
30. What is the catalyst in the chloroalkane reaction of a primary alcohol with HCl?
a) red phosphorous b) concentrated H2SO4
c) anhydrous ZnCl2 d) pyridine

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2022-23)

28/30

Name of Applicant: - ..mukuly

Father's Name: - ....inderpal singh

Branch (to be opted):- ...IT.....

Note:- Attempt all Questions. Each question is of 1 mark.

1. If the 5th term of an arithmetic progression is 17 and the 9th term is 37. What is the 1st term?
(a) -6 (b) -3 (c) 0 (d) 3

2. A die is thrown. Let A be the event that the number obtained is greater than 3. Let B be the event that the number obtained is less than 5. Then P (A ∪ B) is
(a) 3/5 (b) 0 (c) 1 (d) 5/2

3.If Cos x + sin x =a then the value of cos 2x is

(a) a (b) $a\sqrt{2-a}$ (c) $a\sqrt{2+a}$ (d) a^2-1

4.If $(1+\sqrt{1+x})\tan x = 1+\sqrt{1+x}$ then sin 4x =

(a) 4x (b) 2x (c) x (d) none of these

5. For the real value of cos $\theta = x+\frac{1}{x}$ then

(a) θ is acute angle (b) θ is obtuse angle (c) right angle (d) none of these

6. If tan $\alpha = \frac{1}{7}$, tan $\beta = \frac{1}{3}$, then cos 2α =

(a) Sin 2β (b) Sin 4β (c) Sin 4β (d) cos2β

7. The value of $2018\int_0^1 \frac{e^{\cos\pi x}}{e^{\cos\pi x}+e^{-\cos\pi x}}dx$ is

(a) 1008 (b) 1009 (c) 2017 (d) 2000

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

8. If $2^x + 2^y = 2^{x+y}$ then $\frac{dy}{dx}$ at x = 1= y

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

9. Derivative of $\cos^{-1}\left(\frac{x^{-1}-x}{x^{-1}+x}\right)$ at x= -1 is

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

10. A number is chosen form among the first 30 natural numbers. The probability that the number is a prime number is

(a) $\frac{1}{3}$ (b) $\frac{3}{10}$ (c) $\frac{1}{30}$ (d) $\frac{11}{30}$

11.The value of gravitational acceleration on Earth is

(a) 9.8 m/s (b) 9.8 m/s^2 (c) 8.9 m/s (d) 8.9 m/s^2

12.What would be the height of an artificial satellite so that it remains stationary with respect to earth's surface

(a) 36000 km above the earth surface (b) 40000 km above the earth surface

(c) 26000 km above the earth surface (d) 63000 km above the earth surface

13.The value of gravitational acceleration

(a) increases as height increases from the earth. (b) decreases as height increases from the earth.

(c) remains constant. (d) None of the above

14.The centripetal force required by the artificial satellite to revolve around earth is provided by

(a) fuel contained in the satellite (b) gravitational force due to sun

(c) gravitational force due to earth (d) Thrust produced by burning fuel

15.In which region of earth the weight of a body is slightly greater than the other regions?

(a) At polar region (b) At equator (c) Tropic of Cancer (d) None of this

16.What is the value of the escape velocity of earth? (a) 9.8 km/sec (b) 10 km/sec (c) 11.2 km/sec (d) 12 km/s

17.How much time does a polar satellite take to complete one revolution around earth?

(a) 1 hour 30 min (b) 2 hours (c) 2 hour 20 min (d) 3 hour

18.In case of a planet's motion on its circular orbit

(a) its velocity remains constant in its orbit (b) its angular velocity remains constant

(c) its total angular momentum remains constant. (d) radius of orbit remains constant.

19.If the radius of earth is decreased keeping its mass constant, then the length of day will

(a) decrease (b) Increase (c) remain same (d) cannot say

20.If the earth would stop rotating then the weight of an object on north pole will

(a) increase (b) decrease (c) remain same (d) be zero

21. Producer gas is defined as which of the following mixtures?
a) carbon dioxide and hydrogen b) carbon monoxide and hydrogen
c) carbon monoxide and nitrogen d) carbon dioxide and nitrogen
22. When two perfect solutions with volume V each are combined, What is the volume of the solution as a result?
a) V b) 2V
c) Greater than 2V d) Less than 2V
23. The heat of solution or mixing has a negative side.
a) Heat of solution b) Heat of dissolution
c) Heat of reaction d) Heat of mixing
24. A solution made up of numerous components in which each component's property is the weighted sum of its sepa properties. The answer is
a) Ideal Solution b) Non-Ideal solution
c) Real Solution d) None of the mentioned
25. What is an example of camphor in N2 gas?
a) Solid in gas solution b) Gas in gas solution
c) Solid in liquid solution d) Liquid in gas solution
26. What makes a solution?
a) Solute and solvent b) Solute and solute
c) Solvent and solvent d) None of the above
27. What is the class of the substitution product of LiAlH4 and an alkyl halide reaction?
a) Haloalkane b) Alkyl nitrite
c) Nitroalkane d) Hydrocarbon
28. Which of the following statements about SN2 mechanisms is incorrect?
a) The transition state is stable
b) The complete mechanism takes place in a single step
c) The rate of the reaction depends on the concentration of both reactants
d) There is an inversion of configuration
29. What is 3-Bromopropene's common name?
a) Allyl bromide b) Vinyl bromide
c) Tert-Butyl bromide d) Propylidene bromide
30. What is the catalyst in the chloroalkane reaction of a primary alcohol with HCl?
a) red phosphorous b) concentrated H2SO4
c) anhydrous ZnCl2 d) pyridine

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Gh

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2022-23)

27/30

Name of Applicant: - ....Tania

Father's Name: - ....pradeep kumar

Branch (to be opted):- ....CS

Note:- Attempt all Questions. Each question is of 1 mark.

1. If the 5th term of an arithmetic progression is 17 and the 9th term is 37. What is the 1st term?
(a) -6 (b) -3 (c) 0 (d) 3

2. A die is thrown. Let A be the event that the number obtained is greater than 3. Let B be the event that the number obtained is less than 5. Then P (A ∪ B) is
(a) 3/5 (b) 0 (c) 1 (d) 5/2

3.If Cos x + sin x =a then the value of cos 2x is

(a) a (b) $a\sqrt{2-a}$ (c) $a\sqrt{2+a}$ (d) a^2-1

4.If $(1+\sqrt{1+x})\tan x = 1+\sqrt{1+x}$ then sin 4x =

(a) 4x (b) 2x (c) x (d) none of these

5. For the real value of cos $\theta = x+\frac{1}{x}$ then

(a) θ is acute angle (b) θ is obtuse angle (c) right angle (d) none of these

6. If tan $\alpha = \frac{1}{7}$, tan $\beta = \frac{1}{3}$, then cos 2α =

(a) Sin 2β (b) Sin 4β (c) Sin 4β (d) cos2β

7. The value of $2018\int_0^1 \frac{e^{\cos \pi x}}{e^{\cos \pi x}+e^{-\cos \pi x}}dx$ is

(a) 1008 (b) 1009 (c) 2017 (d) 2000

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

R.D. Engineering College Head ASH

8. If $2^x + 2^y = 2^{x+y}$ then $\frac{dy}{dx}$ at x = 1= y

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

9. Derivative of $\cos^{-1}\left(\frac{x^{-1}-x}{x^{-1}+x}\right)$ at x= -1 is

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

10. A number is chosen form among the first 30 natural numbers. The probability that the number is a prime number is

(a) $\frac{1}{3}$ (b) $\frac{3}{10}$ (c) $\frac{1}{30}$ (d) $\frac{11}{30}$

11.The value of gravitational acceleration on Earth is

(a) 9.8 m/s (b) 9.8 m/s^2 (c) 8.9 m/s (d) 8.9 m/s^2

12.What would be the height of an artificial satellite so that it remains stationary with respect to earth's surface?

(a) 36000 km above the earth surface (b) 40000 km above the earth surface

(c) 26000 km above the earth surface (d) 63000 km above the earth surface

13.The value of gravitational acceleration

(a) increases as height increases from the earth. (b) decreases as height increases from the earth.

(c) remains constant. (d) None of the above

14.The centripetal force required by the artificial satellite to revolve around earth is provided by

(a) fuel contained in the satellite (b) gravitational force due to sun

(c) gravitational force due to earth (d) Thrust produced by burning fuel

15.In which region of earth the weight of a body is slightly greater than the other regions?

(a) At polar region (b) At equator (c) Tropic of Cancer (d) None of this

16.What is the value of the escape velocity of earth? (a) 9.8 km/sec (b) 10 km/sec (c) 11.2 km/sec (d) 12 km/s

17.How much time does a polar satellite take to complete one revolution around earth?

(a) 1 hour 30 min (b) 2 hours (c) 2 hour 20 min (d) 3 hour

18.In case of a planet's motion on its circular orbit

(a) its velocity remains constant in its orbit (b) its angular velocity remains constant

(c) its total angular momentum remains constant. (d) radius of orbit remains constant.

19.If the radius of earth is decreased keeping its mass constant, then the length of day will

(a) decrease (b) Increase (c) remain same (d) cannot say

20.If the earth would stop rotating then the weight of an object on north pole will

(a) increase (b) decrease (c) remain same (d) be zero

21. Producer gas is defined as which of the following mixtures?
a) carbon dioxide and hydrogen b) carbon monoxide and hydrogen
c) carbon monoxide and nitrogen d) carbon dioxide and nitrogen
22. When two perfect solutions with volume V each are combined, What is the volume of the solution as a result?
a) V b) 2V
c) Greater than 2V d) Less than 2V
23. The heat of solution or mixing has a negative side.
a) Heat of solution b) Heat of dissolution
c) Heat of reaction d) Heat of mixing
24. A solution made up of numerous components in which each component's property is the weighted sum of its sepa properties. The answer is
a) Ideal Solution b) Non-Ideal solution
c) Real Solution d) None of the mentioned
25. What is an example of camphor in N2 gas?
a) Solid in gas solution b) Gas in gas solution
c) Solid in liquid solution d) Liquid in gas solution
26. What makes a solution?
a) Solute and solvent b) Solute and solute
c) Solvent and solvent d) None of the above
27. What is the class of the substitution product of LiAlH4 and an alkyl halide reaction?
a) Haloalkane b) Alkyl nitrite
c) Nitroalkane d) Hydrocarbon
28. Which of the following statements about SN2 mechanisms is incorrect?
a) The transition state is stable
b) The complete mechanism takes place in a single step
c) The rate of the reaction depends on the concentration of both reactants
d) There is an inversion of configuration
29. What is 3-Bromopropene's common name?
a) Allyl bromide b) Vinyl bromide
c) Tert-Butyl bromide d) Propylidene bromide
30. What is the catalyst in the chloroalkane reaction of a primary alcohol with HCl?
a) red phosphorous b) concentrated H2SO4
c) anhydrous ZnCl2 d) pyridine

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2022-23)

29/30

Name of Applicant: - MOHD. ADNAN

Father's Name: - MOHD. UMAR

Branch (to be opted):- CS-AIML

Note:- Attempt all Questions. Each question is of 1 mark.

1. If the 5th term of an arithmetic progression is 17 and the 9th term is 37. What is the 1st term?
(a) -6 (b) -3 (c) 0 (d) 3

2. A die is thrown. Let A be the event that the number obtained is greater than 3. Let B be the event that the number obtained is less than 5. Then P (A ∪ B) is
(a) 3/5 (b) 0 (c) 1 (d) 5/2

3.If Cos x + sin x =a then the value of cos 2x is

(a) a (b) $a\sqrt{2-a}$ (c) $a\sqrt{2+a}$ (d) a^2-1

4.If $(1+\sqrt{1+x})\tan x = 1+\sqrt{1+x}$ then sin 4x =

(a) 4x (b) 2x (c) x (d) none of these

5. For the real value of cos $\theta = x+\frac{1}{x}$ then

(a) θ is acute angle (b) θ is obtuse angle (c) right angle (d) none of these

6. If tan $\alpha = \frac{1}{7}$, tan $\beta = \frac{1}{3}$, then cos 2α =

(a) Sin 2β (b) Sin 4β (c) Sin 4β (d) cos2β

7. The value of $2018\int_0^1 \frac{e^{\cos\pi x}}{e^{\cos\pi x}+e^{-\cos\pi x}}dx$ is

(a) 1008 (b) 1009 (c) 2017 (d) 2000

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

R.D. Engineering College Head ASH

8. If $2^x + 2^y = 2^{x+y}$ then $\frac{dy}{dx}$ at x = 1= y

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

9. Derivative of $\cos^{-1}\left(\frac{x^{-1}-x}{x^{-1}+x}\right)$ at x= -1 is

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

10. A number is chosen form among the first 30 natural numbers. The probability that the number is a prime number is

(a) $\frac{1}{3}$ (b) $\frac{3}{10}$ (c) $\frac{1}{30}$ (d) $\frac{11}{30}$

11.The value of gravitational acceleration on Earth is

(a) 9.8 m/s (b) 9.8 m/s^2 (c) 8.9 m/s (d) 8.9 m/s^2

12.What would be the height of an artificial satellite so that it remains stationary with respect to earth's surface?

(a) 36000 km above the earth surface (b) 40000 km above the earth surface

(c) 26000 km above the earth surface (d) 63000 km above the earth surface

13.The value of gravitational acceleration

(a) increases as height increases from the earth. (b) decreases as height increases from the earth.

(c) remains constant. (d) None of the above

14.The centripetal force required by the artificial satellite to revolve around earth is provided by

(a) fuel contained in the satellite (b) gravitational force due to sun

(c) gravitational force due to earth (d) Thrust produced by burning fuel

15.In which region of earth the weight of a body is slightly greater than the other regions?

(a) At polar region (b) At equator (c) Tropic of Cancer (d) None of this

16.What is the value of the escape velocity of earth? (a) 9.8 km/sec (b) 10 km/sec (c) 11.2 km/sec (d) 12 km/s

17.How much time does a polar satellite take to complete one revolution around earth?

(a) 1 hour 30 min (b) 2 hours (c) 2 hour 20 min (d) 3 hour

18.In case of a planet's motion on its circular orbit

(a) its velocity remains constant in its orbit (b) its angular velocity remains constant

(c) its total angular momentum remains constant. (d) radius of orbit remains constant.

19.If the radius of earth is decreased keeping its mass constant, then the length of day will

(a) decrease (b) Increase (c) remain same (d) cannot say

20.If the earth would stop rotating then the weight of an object on north pole will

(a) increase (b) decrease (c) remain same (d) be zero

21. Producer gas is defined as which of the following mixtures?
a) carbon dioxide and hydrogen b) carbon monoxide and hydrogen
c) carbon monoxide and nitrogen d) carbon dioxide and nitrogen
22. When two perfect solutions with volume V each are combined, What is the volume of the solution as a result?
a) V b) 2V
c) Greater than 2V d) Less than 2V
23. The heat of solution or mixing has a negative side.
a) Heat of solution b) Heat of dissolution
c) Heat of reaction d) Heat of mixing
24. A solution made up of numerous components in which each component's property is the weighted sum of its sepa properties. The answer is
a) Ideal Solution b) Non-Ideal solution
c) Real Solution d) None of the mentioned
25. What is an example of camphor in N2 gas?
a) Solid in gas solution b) Gas in gas solution
c) Solid in liquid solution d) Liquid in gas solution
26. What makes a solution?
a) Solute and solvent b) Solute and solute
c) Solvent and solvent d) None of the above
27. What is the class of the substitution product of LiAlH4 and an alkyl halide reaction?
a) Haloalkane b) Alkyl nitrite
c) Nitroalkane d) Hydrocarbon
28. Which of the following statements about SN2 mechanisms is incorrect?
a) The transition state is stable
b) The complete mechanism takes place in a single step
c) The rate of the reaction depends on the concentration of both reactants
d) There is an inversion of configuration
29. What is 3-Bromopropene's common name?
a) Allyl bromide b) Vinyl bromide
c) Tert-Butyl bromide d) Propylidene bromide
30. What is the catalyst in the chloroalkane reaction of a primary alcohol with HCl?
a) red phosphorous b) concentrated H2SO4
c) anhydrous ZnCl2 d) pyridine

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2022-23)

Name of Applicant: - Vanshika Aggarwal

Father's Name: - Arun Kumar

Branch (to be opted):- CS

28/30

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

1. If the 5th term of an arithmetic progression is 17 and the 9th term is 37. What is the 1st term?
(a) -6 (b) -3 (c) 0 (d) 3

2. A die is thrown. Let A be the event that the number obtained is greater than 3. Let B be the event that the number obtained is less than 5. Then P (A ∪ B) is
(a) 3/5 (b) 0 (c) 1 (d) 5/2

3.If Cos x + sin x =a then the value of cos 2x is

(a) a (b) $a\sqrt{2-a}$ (c) $a\sqrt{2+a}$ (d) a^2-1

4.If $(1+\sqrt{1+x})\tan x = 1+\sqrt{1+x}$ then sin 4x =

(a) 4x (b) 2x (c) x (d) none of these

5. For the real value of cos $\theta = x+\frac{1}{x}$ then

(a) θ is acute angle (b) θ is obtuse angle (c) right angle (d) none of these

6. If tan $\alpha=\frac{1}{7}$, tan $\beta=\frac{1}{3}$, then cos 2α =

(a) Sin 2β (b) Sin 4β (c) Sin 4β (d) cos2β

7. The value of $2018\int_0^1 \frac{e^{\cos\pi x}}{e^{\cos\pi x}+e^{-\cos\pi x}}dx$ is

(a) 1008 (b) 1009 (c) 2017 (d) 2000

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

8. If $2^x + 2^y = 2^{x+y}$ then $\frac{dy}{dx}$ at x = 1= y

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

9. Derivative of $\cos^{-1}\left(\frac{x^{-1}-x}{x^{-1}+x}\right)$ at x= -1 is

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

10. A number is chosen form among the first 30 natural numbers. The probability that the number is a prime number is

(a) $\frac{1}{3}$ (b) $\frac{3}{10}$ (c) $\frac{1}{30}$ (d) $\frac{11}{30}$

11.The value of gravitational acceleration on Earth is

(a) 9.8 m/s (b) 9.8 m/s^2 (c) 8.9 m/s (d) 8.9 m/s^2

12.What would be the height of an artificial satellite so that it remains stationary with respect to earth's surface?

(a) 36000 km above the earth surface (b) 40000 km above the earth surface

(c) 26000 km above the earth surface (d) 63000 km above the earth surface

13.The value of gravitational acceleration

(a) increases as height increases from the earth. (b) decreases as height increases from the earth.

(c) remains constant. (d) None of the above

14.The centripetal force required by the artificial satellite to revolve around earth is provided by

(a) fuel contained in the satellite (b) gravitational force due to sun

(c) gravitational force due to earth (d) Thrust produced by burning fuel

15.In which region of earth the weight of a body is slightly greater than the other regions?

(a) At polar region (b) At equator (c) Tropic of Cancer (d) None of this

16.What is the value of the escape velocity of earth? (a) 9.8 km/sec (b) 10 km/sec (c) 11.2 km/sec (d) 12 km/s

17.How much time does a polar satellite take to complete one revolution around earth?

(a) 1 hour 30 min (b) 2 hours (c) 2 hour 20 min (d) 3 hour

18.In case of a planet's motion on its circular orbit

(a) its velocity remains constant in its orbit (b) its angular velocity remains constant

(c) its total angular momentum remains constant. (d) radius of orbit remains constant.

19.If the radius of earth is decreased keeping its mass constant, then the length of day will

(a) decrease (b) Increase (c) remain same (d) cannot say

20.If the earth would stop rotating then the weight of an object on north pole will

(a) increase (b) decrease (c) remain same (d) be zero

21. Producer gas is defined as which of the following mixtures?
a) carbon dioxide and hydrogen b) carbon monoxide and hydrogen
c) carbon monoxide and nitrogen d) carbon dioxide and nitrogen
22. When two perfect solutions with volume V each are combined, What is the volume of the solution as a result?
a) V b) 2V
c) Greater than 2V d) Less than 2V
23. The heat of solution or mixing has a negative side.
a) Heat of solution b) Heat of dissolution
c) Heat of reaction d) Heat of mixing
24. A solution made up of numerous components in which each component's property is the weighted sum of its sepa properties. The answer is
a) Ideal Solution b) Non-Ideal solution
c) Real Solution d) None of the mentioned
25. What is an example of camphor in N2 gas?
a) Solid in gas solution b) Gas in gas solution
c) Solid in liquid solution d) Liquid in gas solution
26. What makes a solution?
a) Solute and solvent b) Solute and solute
c) Solvent and solvent d) None of the above
27. What is the class of the substitution product of LiAlH4 and an alkyl halide reaction?
a) Haloalkane b) Alkyl nitrite
c) Nitroalkane d) Hydrocarbon
28. Which of the following statements about SN2 mechanisms is incorrect?
a) The transition state is stable
b) The complete mechanism takes place in a single step
c) The rate of the reaction depends on the concentration of both reactants
d) There is an inversion of configuration
29. What is 3-Bromopropene's common name?
a) Allyl bromide b) Vinyl bromide
c) Tert-Butyl bromide d) Propylidene bromide
30. What is the catalyst in the chloroalkane reaction of a primary alcohol with HCl?
a) red phosphorous b) concentrated H2SO4
c) anhydrous ZnCl2 d) pyridine

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2022-23)

Name of Applicant: - ..Rishi.. Mishra

Father's Name: - ..Ranjeet.. Mishra

Branch (to be opted):- ..IT.....

29/30

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

1. If the 5th term of an arithmetic progression is 17 and the 9th term is 37. What is the 1st term?
(a) -6 (b) -3 (c) 0 (d) 3

2. A die is thrown. Let A be the event that the number obtained is greater than 3. Let B be the event that the number obtained is less than 5. Then P (A ∪ B) is
(a) 3/5 (b) 0 (c) 1 (d) 5/2

3.If Cos x + sin x =a then the value of cos 2x is

(a) a (b) $a\sqrt{2-a}$ (c) $a\sqrt{2+a}$ (d) a^2-1

4.If $(1+\sqrt{1+x})\tan x = 1+\sqrt{1+x}$ then sin 4x =

(a) 4x (b) 2x (c) x (d) none of these

5. For the real value of cos $\theta = x+\frac{1}{x}$ then

(a) θ is acute angle (b) θ is obtuse angle (c) right angle (d) none of these

6. If tan $\alpha = \frac{1}{7}$, tan $\beta = \frac{1}{3}$, then cos 2α =

(a) Sin 2β (b) Sin 4β (c) Sin 4β (d) cos2β

7. The value of $2018\int_0^1 \frac{e^{\cos\pi x}}{e^{\cos\pi x}+e^{-\cos\pi x}}dx$ is

(a) 1008 (b) 1009 (c) 2017 (d) 2000

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

8. If $2^x + 2^y = 2^{x+y}$ then $\frac{dy}{dx}$ at x = 1= y

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

9. Derivative of $\cos^{-1}\left(\frac{x^{-1}-x}{x^{-1}+x}\right)$ at x= -1 is

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

10. A number is chosen form among the first 30 natural numbers. The probability that the number is a prime number is

(a) $\frac{1}{3}$ (b) $\frac{3}{10}$ (c) $\frac{1}{30}$ (d) $\frac{11}{30}$

11.The value of gravitational acceleration on Earth is

(a) 9.8 m/s (b) 9.8 m/s^2 (c) 8.9 m/s (d) 8.9 m/s^2

12.What would be the height of an artificial satellite so that it remains stationary with respect to earth's surface

(a) 36000 km above the earth surface (b) 40000 km above the earth surface

(c) 26000 km above the earth surface (d) 63000 km above the earth surface

13.The value of gravitational acceleration

(a) increases as height increases from the earth. (b) decreases as height increases from the earth.

(c) remains constant. (d) None of the above

14.The centripetal force required by the artificial satellite to revolve around earth is provided by

(a) fuel contained in the satellite (b) gravitational force due to sun

(c) gravitational force due to earth (d) Thrust produced by burning fuel

15.In which region of earth the weight of a body is slightly greater than the other regions?

(a) At polar region (b) At equator (c) Tropic of Cancer (d) None of this

16.What is the value of the escape velocity of earth? (a) 9.8 km/sec (b) 10 km/sec (c) 11.2 km/sec (d) 12 km/s

17.How much time does a polar satellite take to complete one revolution around earth?

(a) 1 hour 30 min (b) 2 hours (c) 2 hour 20 min (d) 3 hour

18.In case of a planet's motion on its circular orbit

(a) its velocity remains constant in its orbit (b) its angular velocity remains constant

(c) its total angular momentum remains constant. (d) radius of orbit remains constant.

19.If the radius of earth is decreased keeping its mass constant, then the length of day will

(a) decrease (b) Increase (c) remain same (d) cannot say

20.If the earth would stop rotating then the weight of an object on north pole will

(a) increase (b) decrease (c) remain same (d) be zero

21. Producer gas is defined as which of the following mixtures?
a) carbon dioxide and hydrogen b) carbon monoxide and hydrogen
c) carbon monoxide and nitrogen d) carbon dioxide and nitrogen
22. When two perfect solutions with volume V each are combined, What is the volume of the solution as a result?
a) V b) 2V
c) Greater than 2V d) Less than 2V
23. The heat of solution or mixing has a negative side.
a) Heat of solution b) Heat of dissolution
c) Heat of reaction d) Heat of mixing
24. A solution made up of numerous components in which each component's property is the weighted sum of its sepa properties. The answer is
a) Ideal Solution b) Non-Ideal solution
c) Real Solution d) None of the mentioned
25. What is an example of camphor in N2 gas?
a) Solid in gas solution b) Gas in gas solution
c) Solid in liquid solution d) Liquid in gas solution
26. What makes a solution?
a) Solute and solvent b) Solute and solute
c) Solvent and solvent d) None of the above
27. What is the class of the substitution product of LiAlH4 and an alkyl halide reaction?
a) Haloalkane b) Alkyl nitrite
c) Nitroalkane d) Hydrocarbon
28. Which of the following statements about SN2 mechanisms is incorrect?
a) The transition state is stable
b) The complete mechanism takes place in a single step
c) The rate of the reaction depends on the concentration of both reactants
d) There is an inversion of configuration
29. What is 3-Bromopropene's common name?
a) Allyl bromide b) Vinyl bromide
c) Tert-Butyl bromide d) Propylidene bromide
30. What is the catalyst in the chloroalkane reaction of a primary alcohol with HCl?
a) red phosphorous b) concentrated H2SO4
c) anhydrous ZnCl2 d) pyridine

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2022-23)

Name of Applicant: - ..Ankur

Father's Name: - ..Narender..

Branch (to be opted):- ..CS-IOT

28/30

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

1. If the 5th term of an arithmetic progression is 17 and the 9th term is 37. What is the 1st term?
(a) -6 (b) -3 (c) 0 (d) 3

2. A die is thrown. Let A be the event that the number obtained is greater than 3. Let B be the event that the number obtained is less than 5. Then P (A ∪ B) is
(a) 3/5 (b) 0 (c) 1 (d) 5/2

3.If Cos x + sin x =a then the value of cos 2x is

(a) a (b) $a\sqrt{2-a}$ (c) $a\sqrt{2+a}$ (d) a^2-1

4.If $(1+\sqrt{1+x})\tan x = 1+\sqrt{1+x}$ then sin 4x =

(a) 4x (b) 2x (c) x (d) none of these

5. For the real value of cos $\theta = x+\frac{1}{x}$ then

(a) θ is acute angle (b) θ is obtuse angle (c) right angle (d) none of these

6. If tan $\alpha=\frac{1}{7}$, tan $\beta=\frac{1}{3}$, then cos 2α =

(a) Sin 2β (b) Sin 4β (c) Sin 4β (d) cos2β

7. The value of $2018\int_0^1 \frac{e^{\cos\pi x}}{e^{\cos\pi x}+e^{-\cos\pi x}}dx$ is

(a) 1008 (b) 1009 (c) 2017 (d) 2000

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

8. If $2^x + 2^y = 2^{x+y}$ then $\frac{dy}{dx}$ at x = 1= y

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

9. Derivative of $\cos^{-1}\left(\frac{x^{-1}-x}{x^{-1}+x}\right)$ at x= -1 is

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

10. A number is chosen form among the first 30 natural numbers. The probability that the number is a prime number is

(a) $\frac{1}{3}$ (b) $\frac{3}{10}$ (c) $\frac{1}{30}$ (d) $\frac{11}{30}$

11.The value of gravitational acceleration on Earth is

(a) 9.8 m/s (b) 9.8 m/s^2 (c) 8.9 m/s (d) 8.9 m/s^2

12.What would be the height of an artificial satellite so that it remains stationary with respect to earth's surface?

(a) 36000 km above the earth surface (b) 40000 km above the earth surface

(c) 26000 km above the earth surface (d) 63000 km above the earth surface

13.The value of gravitational acceleration

(a) increases as height increases from the earth. (b) decreases as height increases from the earth.

(c) remains constant. (d) None of the above

14.The centripetal force required by the artificial satellite to revolve around earth is provided by

(a) fuel contained in the satellite (b) gravitational force due to sun

(c) gravitational force due to earth (d) Thrust produced by burning fuel

15.In which region of earth the weight of a body is slightly greater than the other regions?

(a) At polar region (b) At equator (c) Tropic of Cancer (d) None of this

16.What is the value of the escape velocity of earth? (a) 9.8 km/sec (b) 10 km/sec (c) 11.2 km/sec (d) 12 km/s

17.How much time does a polar satellite take to complete one revolution around earth?

(a) 1 hour 30 min (b) 2 hours (c) 2 hour 20 min (d) 3 hour

18.In case of a planet's motion on its circular orbit

(a) its velocity remains constant in its orbit (b) its angular velocity remains constant

(c) its total angular momentum remains constant. (d) radius of orbit remains constant.

19.If the radius of earth is decreased keeping its mass constant, then the length of day will

(a) decrease (b) Increase (c) remain same (d) cannot say

20.If the earth would stop rotating then the weight of an object on north pole will

(a) increase (b) decrease (c) remain same (d) be zero

21. Producer gas is defined as which of the following mixtures?
a) carbon dioxide and hydrogen b) carbon monoxide and hydrogen
c) carbon monoxide and nitrogen d) carbon dioxide and nitrogen
22. When two perfect solutions with volume V each are combined, What is the volume of the solution as a result?
a) V b) 2V
c) Greater than 2V d) Less than 2V
23. The heat of solution or mixing has a negative side.
a) Heat of solution b) Heat of dissolution
c) Heat of reaction d) Heat of mixing
24. A solution made up of numerous components in which each component's property is the weighted sum of its sepa properties. The answer is
a) Ideal Solution b) Non-Ideal solution
c) Real Solution d) None of the mentioned
25. What is an example of camphor in N2 gas?
a) Solid in gas solution b) Gas in gas solution
c) Solid in liquid solution d) Liquid in gas solution
26. What makes a solution?
a) Solute and solvent b) Solute and solute
c) Solvent and solvent d) None of the above
27. What is the class of the substitution product of LiAlH4 and an alkyl halide reaction?
a) Haloalkane b) Alkyl nitrite
c) Nitroalkane d) Hydrocarbon
28. Which of the following statements about SN2 mechanisms is incorrect?
a) The transition state is stable
b) The complete mechanism takes place in a single step
c) The rate of the reaction depends on the concentration of both reactants
d) There is an inversion of configuration
29. What is 3-Bromopropene's common name?
a) Allyl bromide b) Vinyl bromide
c) Tert-Butyl bromide d) Propylidene bromide
30. What is the catalyst in the chloroalkane reaction of a primary alcohol with HCl?
a) red phosphorous b) concentrated H2SO4
c) anhydrous ZnCl2 d) pyridine

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. ENGINEERING COLLEGE,GHAZIABAD

PUSHPLATA SCHOLARSHIP SCHEME(DETAILS)

Session: 2021-22

S.NO	ROLL NO	NAME	FATHER'S NAME	BRANCH	YEAR	TOTAL FEE (Rs)	CONCESSION PROVIDED (Rs)
1	2102310100013	Altaf	Rafeek Mohammad	CS	1ST	60000	10000
2	2102310100015	Aman Yadav	Roop Kishor Yadav	CS	1st	60000	10000
3	2102310100021	Aryan Tyagi	Kapil Tyagi	CS	1st	60000	10000
4	2102310100024	Ashish Kumar	Vipin Kumar	CS	1st	60000	10000
5	2102310100023	Ashish Kumar	Naveen Kumar	CS	1st	60000	10000
6	2102310100027	Ayush Jha	Rash Mohan Jha	CS	1st	60000	10000
7	2102310100031	Deepak Mittal	Manish Mittal	CS	1st	60000	10000
8	2102310100040	Harsh Kumar	Brijesh	CS	1st	60000	10000
9	2102310100041	Harsh Sharma	Jaidutt Sharma	CS	1st	60000	10000
						Total concession Provided :	₹ 90,000

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
ASH

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2021-22)

Name of Applicant: - Altaf..

Father's Name: - Rafeek Mohammad

Branch (to be opted):- C.S...

28/30

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

Q1. Value of $\xrightarrow{\lim} 0 \frac{\tan x}{\log(1+x)}$ is

(a) 1 (b) 0 (c) does not exist (d) none of these

Q2. If $y^{1/n} = x + \sqrt{1+x^2}$ then the value of (1+x2)y2+xy1 is

(a) n2y (b) ny2 (c)n2y2 (d) none of these

Q3. If $x^{\cos y} + y^{\cos x} = 5$ then at

(a) x=0, y=0, $\frac{dy}{dx}=0$ (b) x=0, y=1, $\frac{dy}{dx}=0$ (c) x=1, y=1, $\frac{dy}{dx}=-1$ (d) x=1, y=0, $\frac{dy}{dx}=1$

Q4. If sin (x+y) = log (x+y) then $\frac{dy}{dx}$ is

(a)2 (b)-2 (c)1 (d)-1

5. The probability that the 13th day of a randomly chosen month is second Saturday is

(a) $\frac{1}{7}$ (b) $\frac{1}{12}$ (c) $\frac{1}{84}$ (d) $\frac{19}{84}$

6. A single latter is chosen random from the word PROBABILITY. The probability that the word is a vowel is

(a) $\frac{2}{11}$ (b) $\frac{3}{11}$ (c) $\frac{4}{11}$ (d) none of these

Registrar R.D. Engineering College Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

Dean R.D. Engineering College Duhai, Ghaziabad

7. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.

(a) 2 (b) 3 (c) 4 (d) 5

8. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through: (a) 145° (b) 150° (c) 155° (d) 160°

9. In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:

(a) 3 (b) 8 (c) 5 (d) 9

10. Which of the following is statement –

(a) Mathematics is easy (b) come here (c) all real no are complex no. (d) he is an engineer.

11.A ball moves in a frictionless inclined table without slipping. The work done by the table surface on the ball is

(a) Negative (b) Zero (c) Positive (d) None of the options

12.The potential energy of a system increases if work is done

(a) upon the system by a non-conservative force (b) by the system against a conservative force

(c) by the system against a non-conservative force (d) upon the system by a conservative force

13.If a light body and heavy body have same kinetic energy, then which one has greater linear momentum?

(a) Lighter body (b) Heavier body (c) Both have same momentum (d) Can't be predicted

14.A light and a heavy body have equal momentum. Which one has greater K.E.?

(a) The lighter body (b) The heavier body (c) Both have equal K.E. (d) Data given is incomplete

15.Unit of energy is

(a) kwh (b) joule (c) electron volt (d) All of the above

16.Which of the following is not a conservative force?

(a) Gravitational force (b) Frictional force (c) Spring force (d) None of these

17.The speed of an object of mass m dropped from an inclined plane (frictionless), at the bottom of the plane, depends on:

(a) height of the plane above the ground (b) angle of inclination of the plane

(c) mass of the object (d) All of these

18.A body projected vertically from the earth reaches a height equal to earth's radius before returning to the earth. The power exerted by the gravitational force is greatest

(a) at the instant just before the body hits the earth (b) at the highest position of the body

(c) it remains constant all through (d) at the instant just after the body is projected.

19.If two particles are brought near one another, the potential energy of the system will

(a) increase (b)decrease (c) remains the same (d) equal to the K.E.

20.When two spheres of equal masses undergo perfect inelastic collision with one of them at rest, after collision they will move

(a) opposite to one another (b) in the same direction (c) together (d) at right angle to each other

21. What is the term for a liquid dispersion in another liquid?
a) Emulsion b) Aerosol
c) Gel d) Foam
22. More than one sort of hybridization can occur in a complex with geometry.
a) tetrahedral b) octahedral
c) trigonal bipyramidal d) square planar
23. Determine the proper name for K2[PdCl4].
a) Potassium tetrachlorinepalladium(II)
b) Potassium tetrachloridopalladate(II)Potassium
c) Potassium tetrachloridopalladium(II)
d) tetrachlorinepalladate(II)
24. Which substance is used to determine the hardness of water using a simple titration?
a) Mg(EDTA) b) Fe(EDTA)
c) Na2(EDTA) d) Co(EDTA)
25. The core atom of which of the following biologically significant coordination molecules is magnesium?
a) Vitamin B12 b) Haemoglobin
c) Chlorophyll d) Carboxypeptidase-A
26. What form does nitrogen take in plants?
a) Ammonia b) Amide
c) Nitrate d) Nitrite
27. What happens to the size of atoms in p-block elements when we move from left to right in the same period?
a) Size does not change b) Size increases then decreases
c) Size increases d) Size decreases
28. When ammonia is oxidized to form nitric acid, what catalyst is used?
a) Platinum-Rhodium gauze b) Vanadium (V) oxide
c) Palladium hydride d) Sodium amalgam
29. Which of the following compounds has an oxidation state of +5 phosphorus?
a) Peroxodiphosphoric acid b) Hypophosphorous acid
c) Orthophosphorous acid d) Hypophosphoric acid
30. Why is nitrogen preferred in the welding and cooling of materials?
a) It is an inert gas b) It is non-toxic
c) It's a gas and can easily be handled d) It has an extremely low freezing point

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2021-22)

28/30

Name of Applicant: - ..Harsh Sharma

Father's Name: - ..Jaidutt sharma

Branch (to be opted):- ...C.S...

Note:- Attempt all Questions. Each question is of 1 mark.

Q1. Value of $\xrightarrow{\lim} 0 \frac{\tan x}{\log(1+x)}$ is

(a) 1 (b) 0 (c) does not exist (d) none of these

Q2. If $y^{1/n} = x + \sqrt{1+x^2}$ then the value of (1+x2)y2+xy1 is

(a) n2y (b) ny2 (c)n2y2 (d) none of these

Q3. If $x^{\cos y} + y^{\cos x} = 5$ then at

(a) x=0, y=0, $\frac{dy}{dx}=0$ (b) x=0, y=1, $\frac{dy}{dx}=0$ (c) x=1, y=1, $\frac{dy}{dx}=-1$ (d) x=1, y=0, $\frac{dy}{dx}=1$

Q4. If sin (x+y) = log (x+y) then $\frac{dy}{dx}$ is

(a)2 (b)-2 (c)1 (d)-1

5. The probability that the 13th day of a randomly chosen month is second Saturday is

(a) $\frac{1}{7}$ (b) $\frac{1}{12}$ (c) $\frac{1}{84}$ (d) $\frac{19}{84}$

6. A single latter is chosen random from the word PROBABILITY. The probability that the word is a vowel is

(a) $\frac{2}{11}$ (b) $\frac{3}{11}$ (c) $\frac{4}{11}$ (d) none of these

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
ASH

7. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.

(a) 2 (b) 3 (c) 4 (d) 5

8. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through: (a) 145° (b) 150° (c) 155° (d) 160°

9. In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:

(a) 3 (b) 8 (c) 5 (d) 9

10. Which of the following is statement –

(a) Mathematics is easy (b) come here (c) all real no are complex no. (d) he is an engineer.

11.A ball moves in a frictionless inclined table without slipping. The work done by the table surface on the ball is

(a) Negative (b) Zero (c) Positive (d) None of the options

12.The potential energy of a system increases if work is done

(a) upon the system by a non-conservative force (b) by the system against a conservative force

(c) by the system against a non-conservative force (d) upon the system by a conservative force

13.If a light body and heavy body have same kinetic energy, then which one has greater linear momentum?

(a) Lighter body (b) Heavier body (c) Both have same momentum (d) Can't be predicted

14.A light and a heavy body have equal momentum. Which one has greater K.E.?

(a) The lighter body (b) The heavier body (c) Both have equal K.E. (d) Data given is incomplete

15.Unit of energy is

(a) kwh (b) joule (c) electron volt (d) All of the above

16.Which of the following is not a conservative force?

(a) Gravitational force (b) Frictional force (c) Spring force (d) None of these

17.The speed of an object of mass m dropped from an inclined plane (frictionless), at the bottom of the plane, depends on:

(a) height of the plane above the ground (b) angle of inclination of the plane

(c) mass of the object (d) All of these

18.A body projected vertically from the earth reaches a height equal to earth's radius before returning to the earth. The power exerted by the gravitational force is greatest

(a) at the instant just before the body hits the earth (b) at the highest position of the body

(c) it remains constant all through (d) at the instant just after the body is projected.

19.If two particles are brought near one another, the potential energy of the system will

(a) increase (b)decrease (c) remains the same (d) equal to the K.E.

20.When two spheres of equal masses undergo perfect inelastic collision with one of them at rest, after collision they will move

(a) opposite to one another (b) in the same direction (c) together (d) at right angle to each other

21. What is the term for a liquid dispersion in another liquid?
a) Emulsion b) Aerosol
c) Gel d) Foam
22. More than one sort of hybridization can occur in a complex with geometry.
a) tetrahedral b) octahedral
c) trigonal bipyramidal d) square planar
23. Determine the proper name for K2[PdCl4].
a) Potassium tetrachlorinepalladium(II)
b) Potassium tetrachloridopalladate(II)Potassium
c) Potassium tetrachloridopalladium(II)
d) tetrachlorinepalladate(II)
24. Which substance is used to determine the hardness of water using a simple titration?
a) Mg(EDTA) b) Fe(EDTA)
c) Na2(EDTA) d) Co(EDTA)
25. The core atom of which of the following biologically significant coordination molecules is magnesium?
a) Vitamin B12 b) Haemoglobin
c) Chlorophyll d) Carboxypeptidase-A
26. What form does nitrogen take in plants?
a) Ammonia b) Amide
c) Nitrate d) Nitrite
27. What happens to the size of atoms in p-block elements when we move from left to right in the same period?
a) Size does not change b) Size increases then decreases
c) Size increases d) Size decreases
28. When ammonia is oxidized to form nitric acid, what catalyst is used?
a) Platinum-Rhodium gauze b) Vanadium (V) oxide
c) Palladium hydride d) Sodium amalgam
29. Which of the following compounds has an oxidation state of +5 phosphorus?
a) Peroxodiphosphoric acid b) Hypophosphorous acid
c) Orthophosphorous acid d) Hypophosphoric acid
30. Why is nitrogen preferred in the welding and cooling of materials?
a) It is an inert gas b) It is non-toxic
c) It's a gas and can easily be handled d) It has an extremely low freezing point

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2021-22)

29/30

Name of Applicant: - Harsh Kumar

Father's Name: - Brijesh

Branch (to be opted):- CS

Note:- Attempt all Questions. Each question is of 1 mark.

Q1. Value of $\lim \to 0 \frac{\tan x}{\log(1+x)}$ is

(a) 1 (b) 0 (c) does not exist (d) none of these

Q2. If $y^{1/n} = x + \sqrt{1+x^2}$ then the value of (1+x2)y2+xy1 is

(a) n2y (b) ny2 (c)n2y2 (d) none of these

Q3. If $x^{\cos y} + y^{\cos x} = 5$ then at

(a) x=0, y=0, $\frac{dy}{dx}=0$ (b) x=0, y=1, $\frac{dy}{dx}=0$ (c) x=1, y=1, $\frac{dy}{dx}=-1$ (d) x=1, y=0, $\frac{dy}{dx}=1$

Q4. If sin (x+y) = log (x+y) then $\frac{dy}{dx}$ is

(a)2 (b)-2 (c)1 (d)-1

5. The probability that the 13th day of a randomly chosen month is second Saturday is

(a) $\frac{1}{7}$ (b) $\frac{1}{12}$ (c) $\frac{1}{84}$ (d) $\frac{19}{84}$

6. A single latter is chosen random from the word PROBABILITY. The probability that the word is a vowel is

(a) $\frac{2}{11}$ (b) $\frac{3}{11}$ (c) $\frac{4}{11}$ (d) none of these

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College

7. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.

(a) 2 (b) 3 (c) 4 (d) 5

8. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through: (a) 145° (b) 150° (c) 155° (d) 160°

9. In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:

(a) 3 (b) 8 (c) 5 (d) 9

10. Which of the following is statement –

(a) Mathematics is easy (b) come here (c) all real no are complex no. (d) he is an engineer.

11.A ball moves in a frictionless inclined table without slipping. The work done by the table surface on the ball is

(a) Negative (b) Zero (c) Positive (d) None of the options

12.The potential energy of a system increases if work is done

(a) upon the system by a non-conservative force (b) by the system against a conservative force

(c) by the system against a non-conservative force (d) upon the system by a conservative force

13.If a light body and heavy body have same kinetic energy, then which one has greater linear momentum?

(a) Lighter body (b) Heavier body (c) Both have same momentum (d) Can't be predicted

14.A light and a heavy body have equal momentum. Which one has greater K.E.?

(a) The lighter body (b) The heavier body (c) Both have equal K.E. (d) Data given is incomplete

15.Unit of energy is

(a) kwh (b) joule (c) electron volt (d) All of the above

16.Which of the following is not a conservative force?

(a) Gravitational force (b) Frictional force (c) Spring force (d) None of these

17.The speed of an object of mass m dropped from an inclined plane (frictionless), at the bottom of the plane, depends on:

(a) height of the plane above the ground (b) angle of inclination of the plane

(c) mass of the object (d) All of these

18.A body projected vertically from the earth reaches a height equal to earth's radius before returning to the earth. The power exerted by the gravitational force is greatest

(a) at the instant just before the body hits the earth (b) at the highest position of the body

(c) it remains constant all through (d) at the instant just after the body is projected.

19.If two particles are brought near one another, the potential energy of the system will

(a) increase (b)decrease (c) remains the same (d) equal to the K.E.

20.When two spheres of equal masses undergo perfect inelastic collision with one of them at rest, after collision they will move

(a) opposite to one another (b) in the same direction (c) together (d) at right angle to each other

21. What is the term for a liquid dispersion in another liquid?
a) Emulsion b) Aerosol
c) Gel d) Foam
22. More than one sort of hybridization can occur in a complex with geometry.
a) tetrahedral b) octahedral
c) trigonal bipyramidal d) square planar
23. Determine the proper name for K2[PdCl4].
a) Potassium tetrachlorinepalladium(II)
b) Potassium tetrachloridopalladate(II)Potassium
c) Potassium tetrachloridopalladium(II)
d) tetrachlorinepalladate(II)
24. Which substance is used to determine the hardness of water using a simple titration?
a) Mg(EDTA) b) Fe(EDTA)
c) Na2(EDTA) d) Co(EDTA)
25. The core atom of which of the following biologically significant coordination molecules is magnesium?
a) Vitamin B12 b) Haemoglobin
c) Chlorophyll d) Carboxypeptidase-A
26. What form does nitrogen take in plants?
a) Ammonia b) Amide
c) Nitrate d) Nitrite
27. What happens to the size of atoms in p-block elements when we move from left to right in the same period?
a) Size does not change b) Size increases then decreases
c) Size increases d) Size decreases
28. When ammonia is oxidized to form nitric acid, what catalyst is used?
a) Platinum-Rhodium gauze b) Vanadium (V) oxide
c) Palladium hydride d) Sodium amalgam
29. Which of the following compounds has an oxidation state of +5 phosphorus?
a) Peroxodiphosphoric acid b) Hypophosphorous acid
c) Orthophosphorous acid d) Hypophosphoric acid
30. Why is nitrogen preferred in the welding and cooling of materials?
a) It is an inert gas b) It is non-toxic
c) It's a gas and can easily be handled d) It has an extremely low freezing point

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2021-22)

29/30

Name of Applicant: - Ayush Jha

Father's Name: - Mr. Rash Mohan Jha

Branch (to be opted):- CS

Note:- Attempt all Questions. Each question is of 1 mark.

Q1. Value of $\lim_{\to 0} \frac{\tan x}{\log(1+x)}$ is

(a) 1 (b) 0 (c) does not exist (d) none of these

Q2. If $y^{1/n} = x + \sqrt{1+x^2}$ then the value of (1+x2)y2+xy1 is

(a) n2y (b) ny2 (c)n2y2 (d) none of these

Q3. If $x^{\cos y} + y^{\cos x} = 5$ then at

(a) x=0, y=0, $\frac{dy}{dx}=0$ (b) x=0, y=1, $\frac{dy}{dx}=0$ (c) x=1, y=1, $\frac{dy}{dx}=-1$ (d) x=1, y=0, $\frac{dy}{dx}=1$

Q4. If sin (x+y) = log (x+y) then $\frac{dy}{dx}$ is

(a)2 (b)-2 (c)1 (d)-1

5. The probability that the 13th day of a randomly chosen month is second Saturday is

(a) $\frac{1}{7}$ (b) $\frac{1}{12}$ (c) $\frac{1}{84}$ (d) $\frac{19}{84}$

6. A single latter is chosen random from the word PROBABILITY. The probability that the word is a vowel is

(a) $\frac{2}{11}$ (b) $\frac{3}{11}$ (c) $\frac{4}{11}$ (d) none of these

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

R.D. Engineering College Head ASH

7. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.

(a) 2 (b) 3 (c) 4 (d) 5

8. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through: (a) 145° (b) 150° (c) 155° (d) 160°

9. In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:

(a) 3 (b) 8 (c) 5 (d) 9

10. Which of the following is statement –

(a) Mathematics is easy (b) come here (c) all real no are complex no. (d) he is an engineer.

11.A ball moves in a frictionless inclined table without slipping. The work done by the table surface on the ball is

(a) Negative (b) Zero (c) Positive (d) None of the options

12.The potential energy of a system increases if work is done

(a) upon the system by a non-conservative force (b) by the system against a conservative force

(c) by the system against a non-conservative force (d) upon the system by a conservative force

13.If a light body and heavy body have same kinetic energy, then which one has greater linear momentum?

(a) Lighter body (b) Heavier body (c) Both have same momentum (d) Can't be predicted

14.A light and a heavy body have equal momentum. Which one has greater K.E.?

(a) The lighter body (b) The heavier body (c) Both have equal K.E. (d) Data given is incomplete

15.Unit of energy is

(a) kwh (b) joule (c) electron volt (d) All of the above

16.Which of the following is not a conservative force?

(a) Gravitational force (b) Frictional force (c) Spring force (d) None of these

17.The speed of an object of mass m dropped from an inclined plane (frictionless), at the bottom of the plane, depends on:

(a) height of the plane above the ground (b) angle of inclination of the plane

(c) mass of the object (d) All of these

18.A body projected vertically from the earth reaches a height equal to earth's radius before returning to the earth. The power exerted by the gravitational force is greatest

(a) at the instant just before the body hits the earth (b) at the highest position of the body

(c) it remains constant all through (d) at the instant just after the body is projected.

19.If two particles are brought near one another, the potential energy of the system will

(a) increase (b)decrease (c) remains the same (d) equal to the K.E.

20.When two spheres of equal masses undergo perfect inelastic collision with one of them at rest, after collision they will move

(a) opposite to one another (b) in the same direction (c) together (d) at right angle to each other

21. What is the term for a liquid dispersion in another liquid?
a) Emulsion b) Aerosol
c) Gel d) Foam
22. More than one sort of hybridization can occur in a complex with geometry.
a) tetrahedral b) octahedral
c) trigonal bipyramidal d) square planar
23. Determine the proper name for K2[PdCl4].
a) Potassium tetrachlorinepalladium(II)
b) Potassium tetrachloridopalladate(II)Potassium
c) Potassium tetrachloridopalladium(II)
d) tetrachlorinepalladate(II)
24. Which substance is used to determine the hardness of water using a simple titration?
a) Mg(EDTA) b) Fe(EDTA)
c) Na2(EDTA) d) Co(EDTA)
25. The core atom of which of the following biologically significant coordination molecules is magnesium?
a) Vitamin B12 b) Haemoglobin
c) Chlorophyll d) Carboxypeptidase-A
26. What form does nitrogen take in plants?
a) Ammonia b) Amide
c) Nitrate d) Nitrite
27. What happens to the size of atoms in p-block elements when we move from left to right in the same period?
a) Size does not change b) Size increases then decreases
c) Size increases d) Size decreases
28. When ammonia is oxidized to form nitric acid, what catalyst is used?
a) Platinum-Rhodium gauze b) Vanadium (V) oxide
c) Palladium hydride d) Sodium amalgam
29. Which of the following compounds has an oxidation state of +5 phosphorus?
a) Peroxodiphosphoric acid b) Hypophosphorous acid
c) Orthophosphorous acid d) Hypophosphoric acid
30. Why is nitrogen preferred in the welding and cooling of materials?
a) It is an inert gas b) It is non-toxic
c) It's a gas and can easily be handled d) It has an extremely low freezing point

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2021-22)

29/30

Name of Applicant: Deeksha Mittal

Father's Name: - Manish Mittal

Branch (to be opted):- CS

Note:- Attempt all Questions. Each question is of 1 mark.

Q1. Value of $\xrightarrow{\lim} 0 \frac{\tan x}{\log(1+x)}$ is

(a) 1 (b) 0 (c) does not exist (d) none of these

Q2. If $y^{1/n} = x + \sqrt{1+x^2}$ then the value of (1+x2)y2+xy1 is

(a) n2y (b) ny2 (c)n2y2 (d) none of these

Q3. If $x^{\cos y} + y^{\cos x} = 5$ then at

(a) x=0, y=0, $\frac{dy}{dx}=0$ (b) x=0, y=1, $\frac{dy}{dx}=0$ (c) x=1, y=1, $\frac{dy}{dx}=-1$ (d) x=1, y=0, $\frac{dy}{dx}=1$

Q4. If sin (x+y) = log (x+y) then $\frac{dy}{dx}$ is

(a)2 (b)-2 (c)1 (d)-1

5. The probability that the 13th day of a randomly chosen month is second Saturday is

(a) $\frac{1}{7}$ (b) $\frac{1}{12}$ (c) $\frac{1}{84}$ (d) $\frac{19}{84}$

6. A single latter is chosen random from the word PROBABILITY. The probability that the word is a vowel is

(a) $\frac{2}{11}$ (b) $\frac{3}{11}$ (c) $\frac{4}{11}$ (d) none of these

Head ASH, R.D. Engineering College

Registrar, R.D. Engineering College, Ghaziabad

Dean Academics, R.D. Engineering College, Duhai, Ghaziabad

Director, R.D. Engineering College, Duhai, Ghaziabad

7. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.

(a) 2 (b) 3 (c) 4 (d) 5

8. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through: (a) 145° (b) 150° (c) 155° (d) 160°

9. In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:

(a) 3 (b) 8 (c) 5 (d) 9

10. Which of the following is statement –

(a) Mathematics is easy (b) come here (c) all real no are complex no. (d) he is an engineer.

11.A ball moves in a frictionless inclined table without slipping. The work done by the table surface on the ball is

(a) Negative (b) Zero (c) Positive (d) None of the options

12.The potential energy of a system increases if work is done

(a) upon the system by a non-conservative force (b) by the system against a conservative force

(c) by the system against a non-conservative force (d) upon the system by a conservative force

13.If a light body and heavy body have same kinetic energy, then which one has greater linear momentum?

(a) Lighter body (b) Heavier body (c) Both have same momentum (d) Can't be predicted

14.A light and a heavy body have equal momentum. Which one has greater K.E.?

(a) The lighter body (b) The heavier body (c) Both have equal K.E. (d) Data given is incomplete

15.Unit of energy is

(a) kwh (b) joule (c) electron volt (d) All of the above

16.Which of the following is not a conservative force?

(a) Gravitational force (b) Frictional force (c) Spring force (d) None of these

17.The speed of an object of mass m dropped from an inclined plane (frictionless), at the bottom of the plane, depends on:

(a) height of the plane above the ground (b) angle of inclination of the plane

(c) mass of the object (d) All of these

18.A body projected vertically from the earth reaches a height equal to earth's radius before returning to the earth. The power exerted by the gravitational force is greatest

(a) at the instant just before the body hits the earth (b) at the highest position of the body

(c) it remains constant all through (d) at the instant just after the body is projected.

19.If two particles are brought near one another, the potential energy of the system will

(a) increase (b)decrease (c) remains the same (d) equal to the K.E.

20.When two spheres of equal masses undergo perfect inelastic collision with one of them at rest, after collision they will move

(a) opposite to one another (b) in the same direction (c) together (d) at right angle to each other

21. What is the term for a liquid dispersion in another liquid?
a) Emulsion b) Aerosol
c) Gel d) Foam
22. More than one sort of hybridization can occur in a complex with geometry.
a) tetrahedral b) octahedral
c) trigonal bipyramidal d) square planar
23. Determine the proper name for K2[PdCl4].
a) Potassium tetrachlorinepalladium(II)
b) Potassium tetrachloridopalladate(II)Potassium
c) Potassium tetrachloridopalladium(II)
d) tetrachlorinepalladate(II)
24. Which substance is used to determine the hardness of water using a simple titration?
a) Mg(EDTA) b) Fe(EDTA)
c) Na2(EDTA) d) Co(EDTA)
25. The core atom of which of the following biologically significant coordination molecules is magnesium?
a) Vitamin B12 b) Haemoglobin
c) Chlorophyll d) Carboxypeptidase-A
26. What form does nitrogen take in plants?
a) Ammonia b) Amide
c) Nitrate d) Nitrite
27. What happens to the size of atoms in p-block elements when we move from left to right in the same period?
a) Size does not change b) Size increases then decreases
c) Size increases d) Size decreases
28. When ammonia is oxidized to form nitric acid, what catalyst is used?
a) Platinum-Rhodium gauze b) Vanadium (V) oxide
c) Palladium hydride d) Sodium amalgam
29. Which of the following compounds has an oxidation state of +5 phosphorus?
a) Peroxodiphosphoric acid b) Hypophosphorous acid
c) Orthophosphorous acid d) Hypophosphoric acid
30. Why is nitrogen preferred in the welding and cooling of materials?
a) It is an inert gas b) It is non-toxic
c) It's a gas and can easily be handled d) It has an extremely low freezing point

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2021-22)

29/30

Name of Applicant: - Ashish kumar

Father's Name: - Naveen kumar

Branch (to be opted):- ....C.S...

Note:- Attempt all Questions. Each question is of 1 mark.

Q1. Value of $\xrightarrow{\lim} 0 \frac{\tan x}{\log(1+x)}$ is

(a) 1 (b) 0 (c) does not exist (d) none of these

Q2. If $y^{1/n} = x + \sqrt{1+x^2}$ then the value of (1+x2)y2+xy1 is

(a) n2y (b) ny2 (c)n2y2 (d) none of these

Q3. If $x^{\cos y} + y^{\cos x} = 5$ then at

(a) x=0, y=0, $\frac{dy}{dx}=0$ (b) x=0, y=1, $\frac{dy}{dx}=0$ (c) x=1, y=1, $\frac{dy}{dx}=-1$ (d) x=1, y=0, $\frac{dy}{dx}=1$

Q4. If sin (x+y) = log (x+y) then $\frac{dy}{dx}$ is

(a)2 (b)-2 (c)1 (d)-1

5. The probability that the 13th day of a randomly chosen month is second Saturday is

(a) $\frac{1}{7}$ (b) $\frac{1}{12}$ (c) $\frac{1}{84}$ (d) $\frac{19}{84}$

6. A single latter is chosen random from the word PROBABILITY. The probability that the word is a vowel is

(a) $\frac{2}{11}$ (b) $\frac{3}{11}$ (c) $\frac{4}{11}$ (d) none of these

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
ASH

7. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.

(a) 2 (b) 3 (c) 4 (d) 5

8. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through: (a) 145° (b) 150° (c) 155° (d) 160°

9. In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:

(a) 3 (b) 8 (c) 5 (d) 9

10. Which of the following is statement –

(a) Mathematics is easy (b) come here (c) all real no are complex no. (d) he is an engineer.

11.A ball moves in a frictionless inclined table without slipping. The work done by the table surface on the ball is

(a) Negative (b) Zero (c) Positive (d) None of the options

12.The potential energy of a system increases if work is done

(a) upon the system by a non-conservative force (b) by the system against a conservative force

(c) by the system against a non-conservative force (d) upon the system by a conservative force

13.If a light body and heavy body have same kinetic energy, then which one has greater linear momentum?

(a) Lighter body (b) Heavier body (c) Both have same momentum (d) Can't be predicted

14.A light and a heavy body have equal momentum. Which one has greater K.E.?

(a) The lighter body (b) The heavier body (c) Both have equal K.E. (d) Data given is incomplete

15.Unit of energy is

(a) kwh (b) joule (c) electron volt (d) All of the above

16.Which of the following is not a conservative force?

(a) Gravitational force (b) Frictional force (c) Spring force (d) None of these

17.The speed of an object of mass m dropped from an inclined plane (frictionless), at the bottom of the plane, depends on:

(a) height of the plane above the ground (b) angle of inclination of the plane

(c) mass of the object (d) All of these

18.A body projected vertically from the earth reaches a height equal to earth's radius before returning to the earth. The power exerted by the gravitational force is greatest

(a) at the instant just before the body hits the earth (b) at the highest position of the body

(c) it remains constant all through (d) at the instant just after the body is projected.

19.If two particles are brought near one another, the potential energy of the system will

(a) increase (b)decrease (c) remains the same (d) equal to the K.E.

20.When two spheres of equal masses undergo perfect inelastic collision with one of them at rest, after collision they will move

(a) opposite to one another (b) in the same direction (c) together (d) at right angle to each other

21. What is the term for a liquid dispersion in another liquid?
a) Emulsion b) Aerosol
c) Gel d) Foam
22. More than one sort of hybridization can occur in a complex with geometry.
a) tetrahedral b) octahedral
c) trigonal bipyramidal d) square planar
23. Determine the proper name for K2[PdCl4].
a) Potassium tetrachlorinepalladium(II)
b) Potassium tetrachloridopalladate(II)Potassium
c) Potassium tetrachloridopalladium(II)
d) tetrachlorinepalladate(II)
24. Which substance is used to determine the hardness of water using a simple titration?
a) Mg(EDTA) b) Fe(EDTA)
c) Na2(EDTA) d) Co(EDTA)
25. The core atom of which of the following biologically significant coordination molecules is magnesium?
a) Vitamin B12 b) Haemoglobin
c) Chlorophyll d) Carboxypeptidase-A
26. What form does nitrogen take in plants?
a) Ammonia b) Amide
c) Nitrate d) Nitrite
27. What happens to the size of atoms in p-block elements when we move from left to right in the same period?
a) Size does not change b) Size increases then decreases
c) Size increases d) Size decreases
28. When ammonia is oxidized to form nitric acid, what catalyst is used?
a) Platinum-Rhodium gauze b) Vanadium (V) oxide
c) Palladium hydride d) Sodium amalgam
29. Which of the following compounds has an oxidation state of +5 phosphorus?
a) Peroxodiphosphoric acid b) Hypophosphorous acid
c) Orthophosphorous acid d) Hypophosphoric acid
30. Why is nitrogen preferred in the welding and cooling of materials?
a) It is an inert gas b) It is non-toxic
c) It's a gas and can easily be handled d) It has an extremely low freezing point

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2021-22)

28/30

Name of Applicant: - Aryan Tyagi

Father's Name: - Kapil Tyagi

Branch (to be opted):- CS

Note:- Attempt all Questions. Each question is of 1 mark.

Q1. Value of $\lim_{\to 0} \frac{\tan x}{\log(1+x)}$ is

(a) 1 (b) 0 (c) does not exist (d) none of these

Q2. If $y^{1/n} = x + \sqrt{1+x^2}$ then the value of (1+x2)y2+xy1 is

(a) n2y (b) ny2 (c)n2y2 (d) none of these

Q3. If $x^{\cos y} + y^{\cos x} = 5$ then at

(a) x=0, y=0, $\frac{dy}{dx}$=0 (b) x=0, y=1, $\frac{dy}{dx}$=0 (c) x=1, y=1, $\frac{dy}{dx}$=-1 (d) x=1, y=0, $\frac{dy}{dx}$=1

Q4. If sin (x+y) = log (x+y) then $\frac{dy}{dx}$ is

(a)2 (b)-2 (c)1 (d)-1

5. The probability that the 13th day of a randomly chosen month is second Saturday is

(a) $\frac{1}{7}$ (b) $\frac{1}{12}$ (c) $\frac{1}{84}$ (d) $\frac{19}{84}$

6. A single latter is chosen random from the word PROBABILITY. The probability that the word is a vowel is

(a) $\frac{2}{11}$ (b) $\frac{3}{11}$ (c) $\frac{4}{11}$ (d) none of these

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

R.D. Engineering College Head ASH

7. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.

(a) 2 (b) 3 (c) 4 (d) 5

8. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through: (a) 145° (b) 150° (c) 155° (d) 160°

9. In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:

(a) 3 (b) 8 (c) 5 (d) 9

10. Which of the following is statement –

(a) Mathematics is easy (b) come here (c) all real no are complex no. (d) he is an engineer.

11.A ball moves in a frictionless inclined table without slipping. The work done by the table surface on the ball is

(a) Negative (b) Zero (c) Positive (d) None of the options

12.The potential energy of a system increases if work is done

(a) upon the system by a non-conservative force (b) by the system against a conservative force

(c) by the system against a non-conservative force (d) upon the system by a conservative force

13.If a light body and heavy body have same kinetic energy, then which one has greater linear momentum?

(a) Lighter body (b) Heavier body (c) Both have same momentum (d) Can't be predicted

14.A light and a heavy body have equal momentum. Which one has greater K.E.?

(a) The lighter body (b) The heavier body (c) Both have equal K.E. (d) Data given is incomplete

15.Unit of energy is

(a) kwh (b) joule (c) electron volt (d) All of the above

16.Which of the following is not a conservative force?

(a) Gravitational force (b) Frictional force (c) Spring force (d) None of these

17.The speed of an object of mass m dropped from an inclined plane (frictionless), at the bottom of the plane, depends on:

(a) height of the plane above the ground (b) angle of inclination of the plane

(c) mass of the object (d) All of these

18.A body projected vertically from the earth reaches a height equal to earth's radius before returning to the earth. The power exerted by the gravitational force is greatest

(a) at the instant just before the body hits the earth (b) at the highest position of the body

(c) it remains constant all through (d) at the instant just after the body is projected.

19.If two particles are brought near one another, the potential energy of the system will

(a) increase (b)decrease (c) remains the same (d) equal to the K.E.

20.When two spheres of equal masses undergo perfect inelastic collision with one of them at rest, after collision they will move

(a) opposite to one another (b) in the same direction (c) together (d) at right angle to each other

21. What is the term for a liquid dispersion in another liquid?
a) Emulsion b) Aerosol
c) Gel d) Foam
22. More than one sort of hybridization can occur in a complex with geometry.
a) tetrahedral b) octahedral
c) trigonal bipyramidal d) square planar
23. Determine the proper name for K2[PdCl4].
a) Potassium tetrachlorinepalladium(II)
b) Potassium tetrachloridopalladate(II)Potassium
c) Potassium tetrachloridopalladium(II)
d) tetrachlorinepalladate(II)
24. Which substance is used to determine the hardness of water using a simple titration?
a) Mg(EDTA) b) Fe(EDTA)
c) Na2(EDTA) d) Co(EDTA)
25. The core atom of which of the following biologically significant coordination molecules is magnesium?
a) Vitamin B12 b) Haemoglobin
c) Chlorophyll d) Carboxypeptidase-A
26. What form does nitrogen take in piants?
a) Ammonia b) Amide
c) Nitrate d) Nitrite
27. What happens to the size of atoms in p-block elements when we move from left to right in the same period?
a) Size does not change b) Size increases then decreases
c) Size increases d) Size decreases
28. When ammonia is oxidized to form nitric acid, what catalyst is used?
a) Platinum-Rhodium gauze b) Vanadium (V) oxide
c) Palladium hydride d) Sodium amalgam
29. Which of the following compounds has an oxidation state of +5 phosphorus?
a) Peroxodiphosphoric acid b) Hypophosphorous acid
c) Orthophosphorous acid d) Hypophosphoric acid
30. Why is nitrogen preferred in the welding and cooling of materials?
a) It is an inert gas b) It is non-toxic
c) It's a gas and can easily be handled d) It has an extremely low freezing point

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2021-22)

29/30

Name of Applicant: - ....Aman Yadav

Father's Name: - .....Roop Kishor Yadav

Branch (to be opted):- .....CS

Note:- Attempt all Questions. Each question is of 1 mark.

Q1. Value of $\xrightarrow{\lim} 0 \frac{\tan x}{\log(1+x)}$ is

(a) 1 (b) 0 (c) does not exist (d) none of these

Q2. If $y^{1/n} = x + \sqrt{1+x^2}$ then the value of (1+x2)y2+xy1 is

(a) n2y (b) ny2 (c)n2y2 (d) none of these

Q3. If $x^{\cos y} + y^{\cos x} = 5$ then at

(a) x=0, y=0, $\frac{dy}{dx}=0$ (b) x=0, y=1, $\frac{dy}{dx}=0$ (c) x=1, y=1, $\frac{dy}{dx}=-1$ (d) x=1, y=0, $\frac{dy}{dx}=1$

Q4. If sin (x+y) = log (x+y) then $\frac{dy}{dx}$ is

(a)2 (b)-2 (c)1 (d)-1

5. The probability that the 13th day of a randomly chosen month is second Saturday is

(a) $\frac{1}{7}$ (b) $\frac{1}{12}$ (c) $\frac{1}{84}$ (d) $\frac{19}{84}$

6. A single latter is chosen random from the word PROBABILITY. The probability that the word is a vowel is

(a) $\frac{2}{11}$ (b) $\frac{3}{11}$ (c) $\frac{4}{11}$ (d) none of these

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

R.D. Engineering College Head ASH

7. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.

(a) 2 (b) 3 (c) 4 (d) 5

8. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through: (a) 145° (b) 150° (c) 155° (d) 160°

9. In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:

(a) 3 (b) 8 (c) 5 (d) 9

10. Which of the following is statement –

(a) Mathematics is easy (b) come here (c) all real no are complex no. (d) he is an engineer.

11.A ball moves in a frictionless inclined table without slipping. The work done by the table surface on the ball is

(a) Negative (b) Zero (c) Positive (d) None of the options

12.The potential energy of a system increases if work is done

(a) upon the system by a non-conservative force (b) by the system against a conservative force

(c) by the system against a non-conservative force (d) upon the system by a conservative force

13.If a light body and heavy body have same kinetic energy, then which one has greater linear momentum?

(a) Lighter body (b) Heavier body (c) Both have same momentum (d) Can't be predicted

14.A light and a heavy body have equal momentum. Which one has greater K.E.?

(a) The lighter body (b) The heavier body (c) Both have equal K.E. (d) Data given is incomplete

15.Unit of energy is

(a) kwh (b) joule (c) electron volt (d) All of the above

16.Which of the following is not a conservative force?

(a) Gravitational force (b) Frictional force (c) Spring force (d) None of these

17.The speed of an object of mass m dropped from an inclined plane (frictionless), at the bottom of the plane, depends on:

(a) height of the plane above the ground (b) angle of inclination of the plane

(c) mass of the object (d) All of these

18.A body projected vertically from the earth reaches a height equal to earth's radius before returning to the earth. The power exerted by the gravitational force is greatest

(a) at the instant just before the body hits the earth (b) at the highest position of the body

(c) it remains constant all through (d) at the instant just after the body is projected.

19.If two particles are brought near one another, the potential energy of the system will

(a) increase (b)decrease (c) remains the same (d) equal to the K.E.

20.When two spheres of equal masses undergo perfect inelastic collision with one of them at rest, after collision they will move

(a) opposite to one another (b) in the same direction (c) together (d) at right angle to each other

21. What is the term for a liquid dispersion in another liquid?
a) Emulsion b) Aerosol
c) Gel d) Foam
22. More than one sort of hybridization can occur in a complex with geometry.
a) tetrahedral b) octahedral
c) trigonal bipyramidal d) square planar
23. Determine the proper name for K2[PdCl4].
a) Potassium tetrachlorinepalladium(II)
b) Potassium tetrachloridopalladate(II)Potassium
c) Potassium tetrachloridopalladium(II)
d) tetrachlorinepalladate(II)
24. Which substance is used to determine the hardness of water using a simple titration?
a) Mg(EDTA) b) Fe(EDTA)
c) Na2(EDTA) d) Co(EDTA)
25. The core atom of which of the following biologically significant coordination molecules is magnesium?
a) Vitamin B12 b) Haemoglobin
c) Chlorophyll d) Carboxypeptidase-A
26. What form does nitrogen take in plants?
a) Ammonia b) Amide
c) Nitrate d) Nitrite
27. What happens to the size of atoms in p-block elements when we move from left to right in the same period?
a) Size does not change b) Size increases then decreases
c) Size increases d) Size decreases
28. When ammonia is oxidized to form nitric acid, what catalyst is used?
a) Platinum-Rhodium gauze b) Vanadium (V) oxide
c) Palladium hydride d) Sodium amalgam
29. Which of the following compounds has an oxidation state of +5 phosphorus?
a) Peroxodiphosphoric acid b) Hypophosphorous acid
c) Orthophosphorous acid d) Hypophosphoric acid
30. Why is nitrogen preferred in the welding and cooling of materials?
a) It is an inert gas b) It is non-toxic
c) It's a gas and can easily be handled d) It has an extremely low freezing point

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Admission Year – (2021-22)

Time: - 2 Hrs

29/30

R.D. Engineering College Head ASH

Name of Applicant: - Ashish Kumar

Father's Name: - Vipin Kumar

Branch (to be opted):- CS

Note:- Attempt all Questions. Each question is of 1 mark.

Q1. Value of $\xrightarrow{\lim} 0 \frac{\tan x}{\log(1+x)}$ is

(a) 1 (b) 0 (c) does not exist (d) none of these

Q2. If $y^{1/n} = x + \sqrt{1+x^2}$ then the value of (1+x2)y2+xy1 is

(a) n2y (b) ny2 (c)n2y2 (d) none of these

Q3. If $x^{\cos y} + y^{\cos x} = 5$ then at

(a) x=0, y=0, $\frac{dy}{dx}=0$ (b) x=0, y=1, $\frac{dy}{dx}=0$ (c) x=1, y=1, $\frac{dy}{dx}=-1$ (d) x=1, y=0, $\frac{dy}{dx}=1$

Q4. If sin (x+y) = log (x+y) then $\frac{dy}{dx}$ is

(a)2 (b)-2 (c)1 (d)-1

5. The probability that the 13th day of a randomly chosen month is second Saturday is

(a) $\frac{1}{7}$ (b) $\frac{1}{12}$ (c) $\frac{1}{84}$ (d) $\frac{19}{84}$

6. A single latter is chosen random from the word PROBABILITY. The probability that the word is a vowel is

(a) $\frac{2}{11}$ (b) $\frac{3}{11}$ (c) $\frac{4}{11}$ (d) none of these

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

7. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.

(a) 2 (b) 3 (c) 4 (d) 5

8. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through: (a) 145° (b) 150° (c) 155° (d) 160°

9. In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:

(a) 3 (b) 8 (c) 5 (d) 9

10. Which of the following is statement –

(a) Mathematics is easy (b) come here (c) all real no are complex no. (d) he is an engineer.

11.A ball moves in a frictionless inclined table without slipping. The work done by the table surface on the ball is

(a) Negative (b) Zero (c) Positive (d) None of the options

12.The potential energy of a system increases if work is done

(a) upon the system by a non-conservative force (b) by the system against a conservative force

(c) by the system against a non-conservative force (d) upon the system by a conservative force

13.If a light body and heavy body have same kinetic energy, then which one has greater linear momentum?

(a) Lighter body (b) Heavier body (c) Both have same momentum (d) Can't be predicted

14.A light and a heavy body have equal momentum. Which one has greater K.E.?

(a) The lighter body (b) The heavier body (c) Both have equal K.E. (d) Data given is incomplete

15.Unit of energy is

(a) kwh (b) joule (c) electron volt (d) All of the above

16.Which of the following is not a conservative force?

(a) Gravitational force (b) Frictional force (c) Spring force (d) None of these

17.The speed of an object of mass m dropped from an inclined plane (frictionless), at the bottom of the plane, depends on:

(a) height of the plane above the ground (b) angle of inclination of the plane

(c) mass of the object (d) All of these

18.A body projected vertically from the earth reaches a height equal to earth's radius before returning to the earth. The power exerted by the gravitational force is greatest

(a) at the instant just before the body hits the earth (b) at the highest position of the body

(c) it remains constant all through (d) at the instant just after the body is projected.

19.If two particles are brought near one another, the potential energy of the system will

(a) increase (b)decrease (c) remains the same (d) equal to the K.E.

20.When two spheres of equal masses undergo perfect inelastic collision with one of them at rest, after collision they will move

(a) opposite to one another (b) in the same direction (c) together (d) at right angle to each other

21. What is the term for a liquid dispersion in another liquid?
a) Emulsion b) Aerosol
c) Gel d) Foam
22. More than one sort of hybridization can occur in a complex with geometry.
a) tetrahedral b) octahedral
c) trigonal bipyramidal d) square planar
23. Determine the proper name for K2[PdCl4].
a) Potassium tetrachlorinepalladium(II)
b) Potassium tetrachloridopalladate(II)Potassium
c) Potassium tetrachloridopalladium(II)
d) tetrachlorinepalladate(II)
24. Which substance is used to determine the hardness of water using a simple titration?
a) Mg(EDTA) b) Fe(EDTA)
c) Na2(EDTA) d) Co(EDTA)
25. The core atom of which of the following biologically significant coordination molecules is magnesium?
a) Vitamin B12 b) Haemoglobin
c) Chlorophyll d) Carboxypeptidase-A
26. What form does nitrogen take in plants?
a) Ammonia b) Amide
c) Nitrate d) Nitrite
27. What happens to the size of atoms in p-block elements when we move from left to right in the same period?
a) Size does not change b) Size increases then decreases
c) Size increases d) Size decreases
28. When ammonia is oxidized to form nitric acid, what catalyst is used?
a) Platinum-Rhodium gauze b) Vanadium (V) oxide
c) Palladium hydride d) Sodium amalgam
29. Which of the following compounds has an oxidation state of +5 phosphorus?
a) Peroxodiphosphoric acid b) Hypophosphorous acid
c) Orthophosphorous acid d) Hypophosphoric acid
30. Why is nitrogen preferred in the welding and cooling of materials?
a) It is an inert gas b) It is non-toxic
c) It's a gas and can easily be handled d) It has an extremely low freezing point

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. ENGINEERING COLLEGE,GHAZIABAD

PUSHPLATA SCHOLARSHIP SCHEME(DETAILS)

Session: 2020-21

S.NO	ROLL NO	NAME	FATHER'S NAME	BRANCH	YEAR	TOTAL FEE (Rs)	CONCESSION PROVIDED (Rs)
1	2002310100010	Aditya Kumar	Ram Avatar	CS	1ST	60000	5000
2	2002310100014	Akash Tyagi	Ram Kumar Tyagi	CS	1ST	60000	5000
3	2002311530024	Sankit Dagar	Nirdosh kumar Dagar	CS	1st	60000	5000
4	2002310100115	Vinay Tyagi	Pramod Tyagi	CS	1st	60000	5000
5	2002310100116	Vishal	Manoj Kumar	CS	1st	60000	5000
6	2002310100080	Nitish	Hukam Singh	CS	1st	60000	5000
7	2002311530011	Karan Sharma	Mahesh Sharma	CS	1st	60000	5000
8	2002311530018	Pratham Kaushik	Sanjeev KaushiK	CS	1st	50000	15000
						Total concession Provided :	₹ 50,000

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
ASH

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2020-21)

28/30

Name of Applicant: - ....Aditya Kumar

Father's Name: - .....Ram Avatar

Branch (to be opted):- .....CS

Note:- Attempt all Questions. Each question is of 1 mark.

1 Let two numbers have arithmetic mean 9 and geometric mean 4. Then these numbers are the roots of the quadratic equation.

(a) $x^2 + 18x + 16 = 0$ (b) $x^2 - 18x - 16 = 0$ (c) $x^2 + 18x - 16 = 0$ (d) $x^2 - 18x + 16 = 0$

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3. If $\sin\theta_1 + \sin\theta_2 + \sin\theta_3 = 3$ then $\cos\theta_1 + \cos\theta_2 + \cos\theta_3 =$

(a) 3 (b) 2 (c) 1 (d) 0

4. If $x = r\sin\theta\cos\phi$, $y = r\sin\theta\sin\phi$, $z = r\cos\theta$ then $x^2 + y^2 + z^2$ is independent of

(a) θ, ϕ (b) r, θ (c) r, ϕ (d) r

5. If $\frac{\sin(x+y)}{\sin(x-y)} = \frac{a+b}{a-b}$ then $\frac{\tan x}{\tan y} =$

(a) $\frac{b}{a}$ (b) a-b (c) $\frac{a}{b}$ (d) a+b

6. The equation of the straight line passing through the point (4, 3) and making intercepts on the co-ordinate axes whose sum is –1 is

(a) x/2 + y/3 = -1 and x/-2 + y/1 = -1 (b) x/2 - y/3 = -1 and x/-2 + y/1 = -1

(c) x/2 + y/3 = 1 and x/2 + y/1 = 1 (d) x/2 - y/3 = 1 and x/-2 + y/1 = 1

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

7.Distance between two parallel planes $2x + y + 2z = 8$ and $4x + 2y + 4z + 5 = 0$ is

(a) 3/2 (b) 5/2 (c) 7/2 (d) 9/2

8.A focus of an ellipse is at the origin. The directrix is the line $x = 4$ and the eccentricity is 1/2. Then the length of the semi–major axis is

(a) 4/3 (b) 8/3 (c) 7/3 (d) 5/3

9.A parabola has the origin as its focus and the line $x = 2$ as the directrix. Then the vertex of the parabola is at

(a) (0, 2) (b) (0, 1) (c) (1, 0) (d) (2, 0)

10. A plane passes through (1, – 2, 1) and is perpendicular to two planes $2x - 2y + z = 0$ and $x - y + 2z = 4$. The distance of the plane from the point (1, 2, 2) is

(a) 0 (b) 2 (c) Square Root of 3 (d) 2 Square Root of 2

11.If μs, μk and μr are coefficients of static friction, kinetic friction and rolling friction, then

(a) $\mu s < \mu k < \mu r$ (b) $\mu k < \mu r < \mu s$ (c) $\mu r < \mu k < \mu s$ (d) $\mu r = \mu k = \mu s$

12.Impulse equals

(a) rate of change of momentum (b) change in momentum

(c) momentum multiplied by time (d) rate of change of force

13.'Net force acting on an object is found to be zero.' It can be inferred that the object

(a) May be at rest (b) May be in uniform motion

(c) May be in uniformly accelerated motion (d) Both a & b

14.The coefficient of static friction between two surfaces depends upon

(a) the normal reaction (b) the shape of the surface in contact

(c) the area of contact (d) None of the these

15.Which of the following statements about friction is true?

(a) Friction can be reduced to zero (b) Frictional force cannot accelerate a body

(c) Frictional force is proportional to the area of contact between the two surfaces

(d) Kinetic friction is always greater than rolling friction

16.No work is done if (a) displacement is zero (b) force is zero

(c) force and displacement are mutually perpendicular (d) All of the above

17.Which is the type of collision in which both the linear momentum and the kinetic energy of the system remain conserved?

(a) Inelastic Collision (b) Elastic Collision (c) Destructive collision (d) None of the options

18.Find the potential energy stored in a ball of mass 5 kg placed at a height of 3 m above the ground.

(a) 121 J (b) 147 J (c) 227 J (d) 182 J

19.An electric heater of rating 1000 W is used for 5 hrs per day for 20 days. What is the electrical energy utilized?

(a) 100 kWh (b) 200 kWh (c) 120 kWh (d) 500 kWh

20.The rate of doing work is called_____. (a) Force (b) Acceleration (c) Power (d) Displacemen

21. As an electroplated protective covering, what metal is used?
a) Plutonium b) Chromium
c) Nickel d) Iron
22.Which of the following statements concerning transuranium elements is incorrect?
a) Atomic number > 92 b) Example is Thorium
c) Decay radioactively as they are unstable d) Elements after Uranium
23. Which of the following is not a lanthanide property?
a) They are soft metals with a white silvery colour
b) They tarnish rapidly by air
c) The hardness of the metals increases with increase in the atomic number
d) The melting point of the metal ranges from 500-1000K
24. AgCl fails to pass which of the following tests?
a) Alkaline test b) Acidic test
c) Chromyl chloride test d) Baeyer's reagent test
25. Plotting a graph between temperature and reaction rates can reveal the temperature dependence of reaction rates.

a) Concentration of reactants and temperature
b) Concentration of products and temperature
c) Rate constant and temperature
d) Rate of catalysis and temperature
26. What effect does temperature have on the half-life of a first-order reaction?
a) It increases b) It decreases c) It remains the same d) Both increases as well as decrease
27 28. In 30 minutes, a first-order reaction is 50% complete. Calculate the amount of time it took to complete 87.5 perc of the reaction.
a) 30 minutes b) 60 minutes c) 90 minutes d) 120 minutes
28 27. When the molecules of a substance are kept at the surface of a solid or a liquid, what is the name of the process?
a) Absorption b) Adsorption c) Sorption d) Desorption
29 28. Which of the following assertions about the extent of physisorption is correct?
a) Increases with increase in temperature b) Decreases with increase in surface area

c) Decreases with increase in the strength of Van der Waals forces d) Decreases with increase in temperature

30 ~~29~~. Which of the following is not a lyophobic colloidal example?

a) Gold solution b) Sulphur solution c) NaCl solution d) Blood

~~30~~. How are different colours used to make gold colloidal solutions?

a) Different diameters of colloidal gold particles b) Variable valency of gold

c) Different concentrations of gold particles d) Impurities produced by different methods

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2020-21)

26/30

Name of Applicant: - Sankit dagar

Father's Name: - Nirdosh Kumar dagar

Branch (to be opted):- C.S

Note:- Attempt all Questions. Each question is of 1 mark.

1 Let two numbers have arithmetic mean 9 and geometric mean 4. Then these numbers are the roots of the quadratic equation.

(a) $x^2 + 18x + 16 = 0$ (b) $x^2 - 18x - 16 = 0$ (c) $x^2 + 18x - 16 = 0$ (d) $x^2 - 18x + 16 = 0$

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3. If $\sin\theta_1 + \sin\theta_2 + \sin\theta_3 = 3$ then $\cos\theta_1 + \cos\theta_2 + \cos\theta_3 =$

(a) 3 (b) 2 (c) 1 (d) 0

4. If $x = r\sin\theta\cos\phi$, $y = r\sin\theta\sin\phi$, $z = r\cos\theta$ then $x^2 + y^2 + z^2$ is independent of

(a) θ, ϕ (b) r, θ (c) r, ϕ (d) r

5. If $\frac{\sin(x+y)}{\sin(x-y)} = \frac{a+b}{a-b}$ then $\frac{\tan x}{\tan y} =$

(a) $\frac{b}{a}$ (b) a-b (c) $\frac{a}{b}$ (d) a+b

6. The equation of the straight line passing through the point (4, 3) and making intercepts on the co-ordinate axes whose sum is –1 is

(a) x/2 + y/3 = -1 and x/-2 + y/1 = -1 (b) x/2 - y/3 = -1 and x/-2 + y/1 = -1

(c) x/2 + y/3 = 1 and x/2 + y/1 = 1 (d) x/2 - y/3 = 1 and x/-2 + y/1 = 1

Head ASH

R.D. Engineering College

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

7.Distance between two parallel planes $2x + y + 2z = 8$ and $4x + 2y + 4z + 5 = 0$ is

(a) 3/2 (b) 5/2 (c) 7/2 (d) 9/2

8.A focus of an ellipse is at the origin. The directrix is the line $x = 4$ and the eccentricity is 1/2. Then the length of the semi−major axis is

(a) 4/3 (b) 8/3 (c) 7/3 (d) 5/3

9.A parabola has the origin as its focus and the line $x = 2$ as the directrix. Then the vertex of the parabola is at

(a) (0, 2) (b) (0, 1) (c) (1, 0) (d) (2, 0)

10. A plane passes through (1, − 2, 1) and is perpendicular to two planes $2x - 2y + z = 0$ and $x - y + 2z = 4$. The distance of the plane from the point (1, 2, 2) is

(a) 0 (b) 2 (c) Square Root of 3 (d) 2 Square Root of 2

11.If μs, μk and μr are coefficients of static friction, kinetic friction and rolling friction, then

(a) $\mu s < \mu k < \mu r$ (b) $\mu k < \mu r < \mu s$ (c) $\mu r < \mu k < \mu s$ (d) $\mu r = \mu k = \mu s$

12.Impulse equals

(a) rate of change of momentum (b) change in momentum

(c) momentum multiplied by time (d) rate of change of force

13.'Net force acting on an object is found to be zero.' It can be inferred that the object

(a) May be at rest (b) May be in uniform motion

(c) May be in uniformly accelerated motion (d) Both a & b

14.The coefficient of static friction between two surfaces depends upon

(a) the normal reaction (b) the shape of the surface in contact

(c) the area of contact (d) None of the these

15.Which of the following statements about friction is true?

(a) Friction can be reduced to zero (b) Frictional force cannot accelerate a body

(c) Frictional force is proportional to the area of contact between the two surfaces

(d) Kinetic friction is always greater than rolling friction

16.No work is done if (a) displacement is zero (b) force is zero

(c) force and displacement are mutually perpendicular (d) All of the above

17.Which is the type of collision in which both the linear momentum and the kinetic energy of the system remain conserved?

(a) Inelastic Collision (b) Elastic Collision (c) Destructive collision (d) None of the options

18.Find the potential energy stored in a ball of mass 5 kg placed at a height of 3 m above the ground.

(a) 121 J (b) 147 J (c) 227 J (d) 182 J

19.An electric heater of rating 1000 W is used for 5 hrs per day for 20 days. What is the electrical energy utilized?

(a) 100 kWh (b) 200 kWh (c) 120 kWh (d) 500 kWh

20.The rate of doing work is called_____. (a) Force (b) Acceleration (c) Power (d) Displacemen

21. As an electroplated protective covering, what metal is used?
a) Plutonium b) Chromium
c) Nickel d) Iron
22.Which of the following statements concerning transuranium elements is incorrect?
a) Atomic number > 92 b) Example is Thorium
c) Decay radioactively as they are unstable d) Elements after Uranium
23. Which of the following is not a lanthanide property?
a) They are soft metals with a white silvery colour
b) They tarnish rapidly by air
c) The hardness of the metals increases with increase in the atomic number
d) The melting point of the metal ranges from 500-1000K
24. AgCl fails to pass which of the following tests?
a) Alkaline test b) Acidic test
c) Chromyl chloride test d) Baeyer's reagent test
25. Plotting a graph between temperature and reaction rates can reveal the temperature dependence of reaction rates.

a) Concentration of reactants and temperature
b) Concentration of products and temperature
c) Rate constant and temperature
d) Rate of catalysis and temperature
26. What effect does temperature have on the half-life of a first-order reaction?
a) It increases b) It decreases c) It remains the same d) Both increases as well as decrease
27. In 30 minutes, a first-order reaction is 50% complete. Calculate the amount of time it took to complete 87.5 perc of the reaction.
a) 30 minutes b) 60 minutes c) 90 minutes d) 120 minutes
28. When the molecules of a substance are kept at the surface of a solid or a liquid, what is the name of the process?
a) Absorption b) Adsorption c) Sorption d) Desorption
28. Which of the following assertions about the extent of physisorption is correct?
a) Increases with increase in temperature b) Decreases with increase in surface area

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

c) Decreases with increase in the strength of Van der Waals forces d) Decreases with increase in temperature

29. Which of the following is not a lyophobic colloidal example?

a) Gold solution b) Sulphur solution c) NaCl solution d) Blood

30. How are different colours used to make gold colloidal solutions?

a) Different diameters of colloidal gold particles b) Variable valency of gold

c) Different concentrations of gold particles d) Impurities produced by different methods

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2020-21)

26/30

Name of Applicant: - Akash Tyagi

Father's Name: - Ram kumar Tyagi

Branch (to be opted):- CS

Note:- Attempt all Questions. Each question is of 1 mark.

1 Let two numbers have arithmetic mean 9 and geometric mean 4. Then these numbers are the roots of the quadratic equation.

(a) $x^2 + 18x + 16 = 0$ (b) $x^2 - 18x - 16 = 0$ (c) $x^2 + 18x - 16 = 0$ (d) $x^2 - 18x + 16 = 0$

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3. If $\sin\theta_1 + \sin\theta_2 + \sin\theta_3 = 3$ then $\cos\theta_1 + \cos\theta_2 + \cos\theta_3 =$

(a) 3 (b) 2 (c) 1 (d) 0

4. If $x = r\sin\theta\cos\phi$; $y = r\sin\theta\sin\phi$, $z = r\cos\theta$ then $x^2 + y^2 + z^2$ is independent of

(a) θ , ϕ (b) r , θ (c) r , ϕ (d) r

5. If $\dfrac{\sin(x+y)}{\sin(x-y)} = \dfrac{a+b}{a-b}$ then $\dfrac{\tan x}{\tan y} =$

(a) $\dfrac{b}{a}$ (b) a-b (c) $\dfrac{a}{b}$ (d) a+b

6. The equation of the straight line passing through the point (4, 3) and making intercepts on the co-ordinate axes whose sum is –1 is

(a) x/2 + y/3 = -1 and x/-2 + y/1 = -1 (b) x/2 - y/3 = -1 and x/-2 + y/1 = -1

(c) x/2 + y/3 = 1 and x/2 + y/1 = 1 (d) x/2 - y/3 = 1 and x/-2 + y/1 = 1

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

7.Distance between two parallel planes $2x + y + 2z = 8$ and $4x + 2y + 4z + 5 = 0$ is

(a) 3/2 (b) 5/2 (c) 7/2 (d) 9/2

8.A focus of an ellipse is at the origin. The directrix is the line $x = 4$ and the eccentricity is 1/2. Then the length of the semi−major axis is

(a) 4/3 (b) 8/3 (c) 7/3 (d) 5/3

9.A parabola has the origin as its focus and the line $x = 2$ as the directrix. Then the vertex of the parabola is at

(a) (0, 2) (b) (0, 1) (c) (1, 0) (d) (2, 0)

10. A plane passes through (1, − 2, 1) and is perpendicular to two planes $2x - 2y + z = 0$ and $x - y + 2z = 4$. The distance of the plane from the point (1, 2, 2) is

(a) 0 (b) 2 (c) Square Root of 3 (d) 2 Square Root of 2

11.If μs, μk and μr are coefficients of static friction, kinetic friction and rolling friction, then

(a) $\mu s < \mu k < \mu r$ (b) $\mu k < \mu r < \mu s$ (c) $\mu r < \mu k < \mu s$ (d) $\mu r = \mu k = \mu s$

12.Impulse equals

(a) rate of change of momentum (b) change in momentum

(c) momentum multiplied by time (d) rate of change of force

13.'Net force acting on an object is found to be zero.' It can be inferred that the object

(a) May be at rest (b) May be in uniform motion

(c) May be in uniformly accelerated motion (d) Both a & b

14.The coefficient of static friction between two surfaces depends upon

(a) the normal reaction (b) the shape of the surface in contact

(c) the area of contact (d) None of the these

15.Which of the following statements about friction is true?

(a) Friction can be reduced to zero (b) Frictional force cannot accelerate a body

(c) Frictional force is proportional to the area of contact between the two surfaces

(d) Kinetic friction is always greater than rolling friction

16.No work is done if (a) displacement is zero (b) force is zero

(c) force and displacement are mutually perpendicular (d) All of the above

17.Which is the type of collision in which both the linear momentum and the kinetic energy of the system remain conserved?

(a) Inelastic Collision (b) Elastic Collision (c) Destructive collision (d) None of the options

18.Find the potential energy stored in a ball of mass 5 kg placed at a height of 3 m above the ground.

(a) 121 J (b) 147 J (c) 227 J (d) 182 J

19.An electric heater of rating 1000 W is used for 5 hrs per day for 20 days. What is the electrical energy utilized?

(a) 100 kWh (b) 200 kWh (c) 120 kWh (d) 500 kWh

20.The rate of doing work is called_____. (a) Force (b) Acceleration (c) Power (d) Displacemen

21. As an electroplated protective covering, what metal is used?
a) Plutonium b) Chromium
c) Nickel d) Iron
22.Which of the following statements concerning transuranium elements is incorrect?
a) Atomic number > 92 b) Example is Thorium
c) Decay radioactively as they are unstable d) Elements after Uranium
23. Which of the following is not a lanthanide property?
a) They are soft metals with a white silvery colour
b) They tarnish rapidly by air
c) The hardness of the metals increases with increase in the atomic number
d) The melting point of the metal ranges from 500-1000K
24. AgCl fails to pass which of the following tests?
a) Alkaline test b) Acidic test
c) Chromyl chloride test d) Baeyer's reagent test
25. Plotting a graph between temperature and reaction rates can reveal the temperature dependence of reaction rates.

a) Concentration of reactants and temperature
b) Concentration of products and temperature
c) Rate constant and temperature
d) Rate of catalysis and temperature
26. What effect does temperature have on the half-life of a first-order reaction?
a) It increases b) It decreases c) It remains the same d) Both increases as well as decrease
28. In 30 minutes, a first-order reaction is 50% complete. Calculate the amount of time it took to complete 87.5 perc of the reaction.
a) 30 minutes b) 60 minutes c) 90 minutes d) 120 minutes
28. When the molecules of a substance are kept at the surface of a solid or a liquid, what is the name of the process'
a) Absorption b) Adsorption c) Sorption d) Desorption
28. Which of the following assertions about the extent of physisorption is correct?
a) Increases with increase in temperature b) Decreases with increase in surface area

c) Decreases with increase in the strength of Van der Waals forces d) Decreases with increase in temperature

29. Which of the following is not a lyophobic colloidal example?

a) Gold solution b) Sulphur solution c) NaCl solution d) Blood

30. How are different colours used to make gold colloidal solutions?

a) Different diameters of colloidal gold particles b) Variable valency of gold

c) Different concentrations of gold particles d) Impurities produced by different methods

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2020-21)

29/30

R.D. Engineering College Head ASH

Name of Applicant: - Pratham Kaushik

Father's Name: - Sanjeev Kaushik

Branch (to be opted):- CS.

Note:- Attempt all Questions. Each question is of 1 mark.

1 Let two numbers have arithmetic mean 9 and geometric mean 4. Then these numbers are the roots of the quadratic equation.

(a) $x^2 + 18x + 16 = 0$ (b) $x^2 - 18x - 16 = 0$ (c) $x^2 + 18x - 16 = 0$ (d) $x^2 - 18x + 16 = 0$

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3. If $\sin\theta_1 + \sin\theta_2 + \sin\theta_3 = 3$ then $\cos\theta_1 + \cos\theta_2 + \cos\theta_3 =$

(a) 3 (b) 2 (c) 1 (d) 0

4. If $x = r\sin\theta\cos\phi$, $y = r\sin\theta\sin\phi$, $z = r\cos\theta$ then $x^2 + y^2 + z^2$ is independent of

(a) θ, ϕ (b) r, θ (c) r, ϕ (d) r

5. If $\frac{\sin(x+y)}{\sin(x-y)} = \frac{a+b}{a-b}$ then $\frac{\tan x}{\tan y} =$

(a) $\frac{b}{a}$ (b) a-b (c) $\frac{a}{b}$ (d) a+b

6. The equation of the straight line passing through the point (4, 3) and making intercepts on the co-ordinate axes whose sum is –1 is

(a) x/2 + y/3 = -1 and x/-2 + y/1 = -1 (b) x/2 - y/3 = -1 and x/-2 + y/1 = -1

(c) x/2 + y/3 = 1 and x/2 + y/1 = 1 (d) x/2 - y/3 = 1 and x/-2 + y/1 = 1

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

7.Distance between two parallel planes $2x + y + 2z = 8$ and $4x + 2y + 4z + 5 = 0$ is

(a) 3/2 (b) 5/2 (c) 7/2 (d) 9/2

8.A focus of an ellipse is at the origin. The directrix is the line $x = 4$ and the eccentricity is 1/2. Then the length of the semi−major axis is

(a) 4/3 (b) 8/3 (c) 7/3 (d) 5/3

9.A parabola has the origin as its focus and the line $x = 2$ as the directrix. Then the vertex of the parabola is at

(a) (0, 2) (b) (0, 1) (c) (1, 0) (d) (2, 0)

10. A plane passes through (1, − 2, 1) and is perpendicular to two planes $2x - 2y + z = 0$ and $x - y + 2z = 4$. The distance of the plane from the point (1, 2, 2) is

(a) 0 (b) 2 (c) Square Root of 3 (d) 2 Square Root of 2

11.If μs, μk and μr are coefficients of static friction, kinetic friction and rolling friction, then

(a) $\mu s < \mu k < \mu r$ (b) $\mu k < \mu r < \mu s$ (c) $\mu r < \mu k < \mu s$ (d) $\mu r = \mu k = \mu s$

12.Impulse equals

(a) rate of change of momentum (b) change in momentum

(c) momentum multiplied by time (d) rate of change of force

13.'Net force acting on an object is found to be zero.' It can be inferred that the object

(a) May be at rest (b) May be in uniform motion

(c) May be in uniformly accelerated motion (d) Both a & b

14.The coefficient of static friction between two surfaces depends upon

(a) the normal reaction (b) the shape of the surface in contact

(c) the area of contact (d) None of the these

15.Which of the following statements about friction is true?

(a) Friction can be reduced to zero (b) Frictional force cannot accelerate a body

(c) Frictional force is proportional to the area of contact between the two surfaces

(d) Kinetic friction is always greater than rolling friction

16.No work is done if (a) displacement is zero (b) force is zero

(c) force and displacement are mutually perpendicular (d) All of the above

17.Which is the type of collision in which both the linear momentum and the kinetic energy of the system remain conserved?

(a) Inelastic Collision (b) Elastic Collision (c) Destructive collision (d) None of the options

18.Find the potential energy stored in a ball of mass 5 kg placed at a height of 3 m above the ground.

(a) 121 J (b) 147 J (c) 227 J (d) 182 J

19.An electric heater of rating 1000 W is used for 5 hrs per day for 20 days. What is the electrical energy utilized?

(a) 100 kWh (b) 200 kWh (c) 120 kWh (d) 500 kWh

20.The rate of doing work is called_____. (a) Force (b) Acceleration (c) Power (d) Displacemen

21. As an electroplated protective covering, what metal is used?
a) Plutonium b) Chromium
c) Nickel d) Iron
22.Which of the following statements concerning transuranium elements is incorrect?
a) Atomic number > 92 b) Example is Thorium
c) Decay radioactively as they are unstable d) Elements after Uranium
23. Which of the following is not a lanthanide property?
a) They are soft metals with a white silvery colour
b) They tarnish rapidly by air
c) The hardness of the metals increases with increase in the atomic number
d) The melting point of the metal ranges from 500-1000K
24. AgCl fails to pass which of the following tests?
a) Alkaline test b) Acidic test
c) Chromyl chloride test d) Baeyer's reagent test
25. Plotting a graph between temperature and reaction rates can reveal the temperature dependence of reaction rates.

a) Concentration of reactants and temperature
b) Concentration of products and temperature
c) Rate constant and temperature
d) Rate of catalysis and temperature
26. What effect does temperature have on the half-life of a first-order reaction?
a) It increases b) It decreases c) It remains the same d) Both increases as well as decrease
27 28. In 30 minutes, a first-order reaction is 50% complete. Calculate the amount of time it took to complete 87.5 perc of the reaction.
a) 30 minutes b) 60 minutes c) 90 minutes d) 120 minutes
28 27. When the molecules of a substance are kept at the surface of a solid or a liquid, what is the name of the process'
a) Absorption b) Adsorption c) Sorption d) Desorption
29 28. Which of the following assertions about the extent of physisorption is correct?
a) Increases with increase in temperature b) Decreases with increase in surface area

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

c) Decreases with increase in the strength of Van der Waals forces d) Decreases with increase in temperature

30 29. Which of the following is not a lyophobic colloidal example?

a) Gold solution b) Sulphur solution c) NaCl solution d) Blood

30. How are different colours used to make gold colloidal solutions?

a) Different diameters of colloidal gold particles b) Variable valency of gold

c) Different concentrations of gold particles d) Impurities produced by different methods

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2020-21)

25/30

R.D. Engineering College Head ASH

Name of Applicant: - Nitish

Father's Name: - Hukam Singh

Branch (to be opted):- CS

Note:- Attempt all Questions. Each question is of 1 mark.

1 Let two numbers have arithmetic mean 9 and geometric mean 4. Then these numbers are the roots of the quadratic equation.

(a) $x^2 + 18x + 16 = 0$ (b) $x^2 - 18x - 16 = 0$ (c) $x^2 + 18x - 16 = 0$ (d) $x^2 - 18x + 16 = 0$

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3. If $\sin\theta_1 + \sin\theta_2 + \sin\theta_3 = 3$ then $\cos\theta_1 + \cos\theta_2 + \cos\theta_3 =$

(a) 3 (b) 2 (c) 1 (d) 0

4. If $x = r\sin\theta\cos\phi$, $y = r\sin\theta\sin\phi$, $z = r\cos\theta$ then $x^2 + y^2 + z^2$ is independent of

(a) θ, ϕ (b) r, θ (c) r, ϕ (d) r

5. If $\frac{\sin(x+y)}{\sin(x-y)} = \frac{a+b}{a-b}$ then $\frac{\tan x}{\tan y} =$

(a) $\frac{b}{a}$ (b) a-b (c) $\frac{a}{b}$ (d) a+b

6. The equation of the straight line passing through the point (4, 3) and making intercepts on the co-ordinate axes whose sum is –1 is

(a) x/2 + y/3 = -1 and x/-2 + y/1 = -1 (b) x/2 - y/3 = -1 and x/-2 + y/1 = -1
(c) x/2 + y/3 = 1 and x/2 + y/1 = 1 (d) x/2 - y/3 = 1 and x/-2 + y/1 = 1

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai

7.Distance between two parallel planes $2x + y + 2z = 8$ and $4x + 2y + 4z + 5 = 0$ is

(a) 3/2 (b) 5/2 (c) 7/2 (d) 9/2

8.A focus of an ellipse is at the origin. The directrix is the line $x = 4$ and the eccentricity is 1/2. Then the length of the semi–major axis is

(a) 4/3 (b) 8/3 (c) 7/3 (d) 5/3

9.A parabola has the origin as its focus and the line $x = 2$ as the directrix. Then the vertex of the parabola is at

(a) (0, 2) (b) (0, 1) (c) (1, 0) (d) (2, 0)

10. A plane passes through (1, – 2, 1) and is perpendicular to two planes $2x - 2y + z = 0$ and $x - y + 2z = 4$. The distance of the plane from the point (1, 2, 2) is

(a) 0 (b) 2 (c) Square Root of 3 (d) 2 Square Root of 2

11.If μs, μk and μr are coefficients of static friction, kinetic friction and rolling friction, then

(a) $\mu s < \mu k < \mu r$ (b) $\mu k < \mu r < \mu s$ (c) $\mu r < \mu k < \mu s$ (d) $\mu r = \mu k = \mu s$

12.Impulse equals

(a) rate of change of momentum (b) change in momentum

(c) momentum multiplied by time (d) rate of change of force

13.'Net force acting on an object is found to be zero.' It can be inferred that the object

(a) May be at rest (b) May be in uniform motion

(c) May be in uniformly accelerated motion (d) Both a & b

14.The coefficient of static friction between two surfaces depends upon

(a) the normal reaction (b) the shape of the surface in contact

(c) the area of contact (d) None of the these

15.Which of the following statements about friction is true?

(a) Friction can be reduced to zero (b) Frictional force cannot accelerate a body

(c) Frictional force is proportional to the area of contact between the two surfaces

(d) Kinetic friction is always greater than rolling friction

16.No work is done if (a) displacement is zero (b) force is zero

(c) force and displacement are mutually perpendicular (d) All of the above

17.Which is the type of collision in which both the linear momentum and the kinetic energy of the system remain conserved?

(a) Inelastic Collision (b) Elastic Collision (c) Destructive collision (d) None of the options

18.Find the potential energy stored in a ball of mass 5 kg placed at a height of 3 m above the ground.

(a) 121 J (b) 147 J (c) 227 J (d) 182 J

19.An electric heater of rating 1000 W is used for 5 hrs per day for 20 days. What is the electrical energy utilized?

(a) 100 kWh (b) 200 kWh (c) 120 kWh (d) 500 kWh

20.The rate of doing work is called_____. (a) Force (b) Acceleration (c) Power (d) Displacemen

21. As an electroplated protective covering, what metal is used?
a) Plutonium b) Chromium
c) Nickel d) Iron
22.Which of the following statements concerning transuranium elements is incorrect?
a) Atomic number > 92 b) Example is Thorium
c) Decay radioactively as they are unstable d) Elements after Uranium
23. Which of the following is not a lanthanide property?
a) They are soft metals with a white silvery colour
b) They tarnish rapidly by air
c) The hardness of the metals increases with increase in the atomic number
d) The melting point of the metal ranges from 500-1000K
24. AgCl fails to pass which of the following tests?
a) Alkaline test b) Acidic test
c) Chromyl chloride test d) Baeyer's reagent test
25. Plotting a graph between temperature and reaction rates can reveal the temperature dependence of reaction rates.

a) Concentration of reactants and temperature
b) Concentration of products and temperature
c) Rate constant and temperature
d) Rate of catalysis and temperature
26. What effect does temperature have on the half-life of a first-order reaction?
a) It increases b) It decreases c) It remains the same d) Both increases as well as decrease
28. In 30 minutes, a first-order reaction is 50% complete. Calculate the amount of time it took to complete 87.5 perc of the reaction.
a) 30 minutes b) 60 minutes c) 90 minutes d) 120 minutes
27. When the molecules of a substance are kept at the surface of a solid or a liquid, what is the name of the process'
a) Absorption b) Adsorption c) Sorption d) Desorption
28. Which of the following assertions about the extent of physisorption is correct?
a) Increases with increase in temperature b) Decreases with increase in surface area

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

c) Decreases with increase in the strength of Van der Waals forces d) Decreases with increase in temperature

29. Which of the following is not a lyophobic colloidal example?

a) Gold solution b) Sulphur solution c) NaCl solution d) Blood

30. How are different colours used to make gold colloidal solutions?

a) Different diameters of colloidal gold particles b) Variable valency of gold

c) Different concentrations of gold particles d) Impurities produced by different methods

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2020-21)

26/30

R.D. Engineering College Head ASH

Name of Applicant: - Vishal

Father's Name: - Manoj Kumar

Branch (to be opted):- CS

Note:- Attempt all Questions. Each question is of 1 mark.

1 Let two numbers have arithmetic mean 9 and geometric mean 4. Then these numbers are the roots of the quadratic equation.

(a) $x^2 + 18x + 16 = 0$ (b) $x^2 - 18x - 16 = 0$ (c) $x^2 + 18x - 16 = 0$ (d) $x^2 - 18x + 16 = 0$

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3. If $\sin\theta_1 + \sin\theta_2 + \sin\theta_3 = 3$ then $\cos\theta_1 + \cos\theta_2 + \cos\theta_3 =$

(a) 3 (b) 2 (c) 1 (d) 0

4. If $x = r\sin\theta\cos\phi$, $y = r\sin\theta\sin\phi$, $z = r\cos\theta$ then $x^2 + y^2 + z^2$ is independent of

(a) θ, ϕ (b) r, θ (c) r, ϕ (d) r

5. If $\frac{\sin(x+y)}{\sin(x-y)} = \frac{a+b}{a-b}$ then $\frac{\tan x}{\tan y} =$

(a) $\frac{b}{a}$ (b) a-b (c) $\frac{a}{b}$ (d) a+b

6. The equation of the straight line passing through the point (4, 3) and making intercepts on the co-ordinate axes whose sum is –1 is

(a) x/2 + y/3 = -1 and x/-2 + y/1 = -1 (b) x/2 - y/3 = -1 and x/-2 + y/1 = -1

(c) x/2 + y/3 = 1 and x/2 + y/1 = 1 (d) x/2 - y/3 = 1 and x/-2 + y/1 = 1

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

7.Distance between two parallel planes $2x + y + 2z = 8$ and $4x + 2y + 4z + 5 = 0$ is

(a) 3/2 (b) 5/2 (c) 7/2 (d) 9/2

8.A focus of an ellipse is at the origin. The directrix is the line $x = 4$ and the eccentricity is 1/2. Then the length of the semi−major axis is

(a) 4/3 (b) 8/3 (c) 7/3 (d) 5/3

9.A parabola has the origin as its focus and the line $x = 2$ as the directrix. Then the vertex of the parabola is at

(a) (0, 2) (b) (0, 1) (c) (1, 0) (d) (2, 0)

10. A plane passes through (1, − 2, 1) and is perpendicular to two planes $2x - 2y + z = 0$ and $x - y + 2z = 4$. The distance of the plane from the point (1, 2, 2) is

(a) 0 (b) 2 (c) Square Root of 3 (d) 2 Square Root of 2

11.If μs, μk and μr are coefficients of static friction, kinetic friction and rolling friction, then

(a) $\mu s < \mu k < \mu r$ (b) $\mu k < \mu r < \mu s$ (c) $\mu r < \mu k < \mu s$ (d) $\mu r = \mu k = \mu s$

12.Impulse equals

(a) rate of change of momentum (b) change in momentum

(c) momentum multiplied by time (d) rate of change of force

13.'Net force acting on an object is found to be zero.' It can be inferred that the object

(a) May be at rest (b) May be in uniform motion

(c) May be in uniformly accelerated motion (d) Both a & b

14.The coefficient of static friction between two surfaces depends upon

(a) the normal reaction (b) the shape of the surface in contact

(c) the area of contact (d) None of the these

15.Which of the following statements about friction is true?

(a) Friction can be reduced to zero (b) Frictional force cannot accelerate a body

(c) Frictional force is proportional to the area of contact between the two surfaces

(d) Kinetic friction is always greater than rolling friction

16.No work is done if (a) displacement is zero (b) force is zero

(c) force and displacement are mutually perpendicular (d) All of the above

17.Which is the type of collision in which both the linear momentum and the kinetic energy of the system remain conserved?

(a) Inelastic Collision (b) Elastic Collision (c) Destructive collision (d) None of the options

18.Find the potential energy stored in a ball of mass 5 kg placed at a height of 3 m above the ground.

(a) 121 J (b) 147 J (c) 227 J (d) 182 J

19.An electric heater of rating 1000 W is used for 5 hrs per day for 20 days. What is the electrical energy utilized?

(a) 100 kWh (b) 200 kWh (c) 120 kWh (d) 500 kWh

20.The rate of doing work is called_____. (a) Force (b) Acceleration (c) Power (d) Displacemen

21. As an electroplated protective covering, what metal is used?
a) Plutonium b) Chromium
c) Nickel d) Iron
22.Which of the following statements concerning transuranium elements is incorrect?
a) Atomic number > 92 b) Example is Thorium
c) Decay radioactively as they are unstable d) Elements after Uranium
23. Which of the following is not a lanthanide property?
a) They are soft metals with a white silvery colour
b) They tarnish rapidly by air
c) The hardness of the metals increases with increase in the atomic number
d) The melting point of the metal ranges from 500-1000K
24. AgCl fails to pass which of the following tests?
a) Alkaline test b) Acidic test
c) Chromyl chloride test d) Baeyer's reagent test
25. Plotting a graph between temperature and reaction rates can reveal the temperature dependence of reaction rates.

a) Concentration of reactants and temperature
b) Concentration of products and temperature
c) Rate constant and temperature
d) Rate of catalysis and temperature
26. What effect does temperature have on the half-life of a first-order reaction?
a) It increases b) It decreases c) It remains the same d) Both increases as well as decrease
27. In 30 minutes, a first-order reaction is 50% complete. Calculate the amount of time it took to complete 87.5 perc of the reaction.
a) 30 minutes b) 60 minutes c) 90 minutes d) 120 minutes
28. When the molecules of a substance are kept at the surface of a solid or a liquid, what is the name of the process?
a) Absorption b) Adsorption c) Sorption d) Desorption
29. Which of the following assertions about the extent of physisorption is correct?
a) Increases with increase in temperature b) Decreases with increase in surface area

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

c) Decreases with increase in the strength of Van der Waals forces d) Decreases with increase in temperature

29. Which of the following is not a lyophobic colloidal example?

a) Gold solution b) Sulphur solution c) NaCl solution d) Blood

30. How are different colours used to make gold colloidal solutions?

a) Different diameters of colloidal gold particles b) Variable valency of gold

c) Different concentrations of gold particles d) Impurities produced by different methods

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2020-21)

25/30

R.D. Engineering College Head ASH

Name of Applicant: - Vinay tyagi

Father's Name: - Pramod tyagi

Branch (to be opted):- CS

Note:- Attempt all Questions. Each question is of 1 mark.

1 Let two numbers have arithmetic mean 9 and geometric mean 4. Then these numbers are the roots of the quadratic equation.

(a) $x^2 + 18x + 16 = 0$ (b) $x^2 - 18x - 16 = 0$ (c) $x^2 + 18x - 16 = 0$ (d) $x^2 - 18x + 16 = 0$

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3. If $\sin\theta_1 + \sin\theta_2 + \sin\theta_3 = 3$ then $\cos\theta_1 + \cos\theta_2 + \cos\theta_3 =$

(a) 3 (b) 2 (c) 1 (d) 0

4. If $x = r\sin\theta\cos\phi$, $y = r\sin\theta\sin\phi$, $z = r\cos\theta$ then $x^2 + y^2 + z^2$ is independent of

(a) θ, ϕ (b) r, θ (c) r, ϕ (d) r

5. If $\frac{\sin(x+y)}{\sin(x-y)} = \frac{a+b}{a-b}$ then $\frac{\tan x}{\tan y} =$

(a) $\frac{b}{a}$ (b) a-b (c) $\frac{a}{b}$ (d) a+b

6. The equation of the straight line passing through the point (4, 3) and making intercepts on the co-ordinate axes whose sum is –1 is

(a) x/2 + y/3 = -1 and x/-2 + y/1 = -1 (b) x/2 - y/3 = -1 and x/-2 + y/1 = -1

(c) x/2 + y/3 = 1 and x/2 + y/1 = 1 (d) x/2 - y/3 = 1 and x/-2 + y/1 = 1

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

7.Distance between two parallel planes $2x + y + 2z = 8$ and $4x + 2y + 4z + 5 = 0$ is

(a) 3/2 (b) 5/2 (c) 7/2 (d) 9/2

8.A focus of an ellipse is at the origin. The directrix is the line $x = 4$ and the eccentricity is 1/2. Then the length of the semi–major axis is

(a) 4/3 (b) 8/3 (c) 7/3 (d) 5/3

9.A parabola has the origin as its focus and the line $x = 2$ as the directrix. Then the vertex of the parabola is at

(a) (0, 2) (b) (0, 1) (c) (1, 0) (d) (2, 0)

10. A plane passes through (1, – 2, 1) and is perpendicular to two planes $2x - 2y + z = 0$ and $x - y + 2z = 4$. The distance of the plane from the point (1, 2, 2) is

(a) 0 (b) 2 (c) Square Root of 3 (d) 2 Square Root of 2

11.If μs, μk and μr are coefficients of static friction, kinetic friction and rolling friction, then

(a) $\mu s < \mu k < \mu r$ (b) $\mu k < \mu r < \mu s$ (c) $\mu r < \mu k < \mu s$ (d) $\mu r = \mu k = \mu s$

12.Impulse equals

(a) rate of change of momentum (b) change in momentum

(c) momentum multiplied by time (d) rate of change of force

13.'Net force acting on an object is found to be zero.' It can be inferred that the object

(a) May be at rest (b) May be in uniform motion

(c) May be in uniformly accelerated motion (d) Both a & b

14.The coefficient of static friction between two surfaces depends upon

(a) the normal reaction (b) the shape of the surface in contact

(c) the area of contact (d) None of the these

15.Which of the following statements about friction is true?

(a) Friction can be reduced to zero (b) Frictional force cannot accelerate a body

(c) Frictional force is proportional to the area of contact between the two surfaces

(d) Kinetic friction is always greater than rolling friction

16.No work is done if (a) displacement is zero (b) force is zero

(c) force and displacement are mutually perpendicular (d) All of the above

17.Which is the type of collision in which both the linear momentum and the kinetic energy of the system remain conserved?

(a) Inelastic Collision (b) Elastic Collision (c) Destructive collision (d) None of the options

18.Find the potential energy stored in a ball of mass 5 kg placed at a height of 3 m above the ground.

(a) 121 J (b) 147 J (c) 227 J (d) 182 J

19.An electric heater of rating 1000 W is used for 5 hrs per day for 20 days. What is the electrical energy utilized?

(a) 100 kWh (b) 200 kWh (c) 120 kWh (d) 500 kWh

20.The rate of doing work is called_____. (a) Force (b) Acceleration (c) Power (d) Displacemen

21. As an electroplated protective covering, what metal is used?
a) Plutonium b) Chromium
c) Nickel d) Iron
22.Which of the following statements concerning transuranium elements is incorrect?
a) Atomic number > 92 b) Example is Thorium
c) Decay radioactively as they are unstable d) Elements after Uranium
23. Which of the following is not a lanthanide property?
a) They are soft metals with a white silvery colour
b) They tarnish rapidly by air
c) The hardness of the metals increases with increase in the atomic number
d) The melting point of the metal ranges from 500-1000K
24. AgCl fails to pass which of the following tests?
a) Alkaline test b) Acidic test
c) Chromyl chloride test d) Baeyer's reagent test
25. Plotting a graph between temperature and reaction rates can reveal the temperature dependence of reaction rates.

a) Concentration of reactants and temperature
b) Concentration of products and temperature
c) Rate constant and temperature
d) Rate of catalysis and temperature
26. What effect does temperature have on the half-life of a first-order reaction?
a) It increases b) It decreases c) It remains the same d) Both increases as well as decrease
27. In 30 minutes, a first-order reaction is 50% complete. Calculate the amount of time it took to complete 87.5 perc of the reaction.
a) 30 minutes b) 60 minutes c) 90 minutes d) 120 minutes
28. When the molecules of a substance are kept at the surface of a solid or a liquid, what is the name of the process?
a) Absorption b) Adsorption c) Sorption d) Desorption
29. Which of the following assertions about the extent of physisorption is correct?
a) Increases with increase in temperature b) Decreases with increase in surface area

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

c) Decreases with increase in the strength of Van der Waals forces d) Decreases with increase in temperature

29. Which of the following is not a lyophobic colloidal example?

a) Gold solution b) Sulphur solution c) NaCl solution d) Blood

30. How are different colours used to make gold colloidal solutions?

a) Different diameters of colloidal gold particles b) Variable valency of gold

c) Different concentrations of gold particles d) Impurities produced by different methods

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2020-21)

Name of Applicant: - Karan Sharma

Father's Name: - Mahesh Sharma

Branch (to be opted):- CS

27/30

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

1 Let two numbers have arithmetic mean 9 and geometric mean 4. Then these numbers are the roots of the quadratic equation.

(a) $x^2 + 18x + 16 = 0$ (b) $x^2 - 18x - 16 = 0$ (c) $x^2 + 18x - 16 = 0$ (d) $x^2 - 18x + 16 = 0$

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3. If $\sin\theta_1 + \sin\theta_2 + \sin\theta_3 = 3$ then $\cos\theta_1 + \cos\theta_2 + \cos\theta_3 =$

(a) 3 (b) 2 (c) 1 (d) 0

4. If $x = r\sin\theta\cos\phi$, $y = r\sin\theta\sin\phi$, $z = r\cos\theta$ then $x^2 + y^2 + z^2$ is independent of

(a) θ, ϕ (b) r, θ (c) r, ϕ (d) r

5. If $\frac{\sin(x+y)}{\sin(x-y)} = \frac{a+b}{a-b}$ then $\frac{\tan x}{\tan y} =$

(a) $\frac{b}{a}$ (b) a-b (c) $\frac{a}{b}$ (d) a+b

6. The equation of the straight line passing through the point (4, 3) and making intercepts on the co-ordinate axes whose sum is –1 is

(a) x/2 + y/3 = -1 and x/-2 + y/1 = -1 (b) x/2 - y/3 = -1 and x/-2 + y/1 = -1

(c) x/2 + y/3 = 1 and x/2 + y/1 = 1 (d) x/2 - y/3 = 1 and x/-2 + y/1 = 1

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

7.Distance between two parallel planes $2x + y + 2z = 8$ and $4x + 2y + 4z + 5 = 0$ is

(a) 3/2 (b) 5/2 (c) 7/2 (d) 9/2

8.A focus of an ellipse is at the origin. The directrix is the line $x = 4$ and the eccentricity is 1/2. Then the length of the semi−major axis is

(a) 4/3 (b) 8/3 (c) 7/3 (d) 5/3

9.A parabola has the origin as its focus and the line $x = 2$ as the directrix. Then the vertex of the parabola is at

(a) (0, 2) (b) (0, 1) (c) (1, 0) (d) (2, 0)

10. A plane passes through (1, − 2, 1) and is perpendicular to two planes $2x - 2y + z = 0$ and $x - y + 2z = 4$. The distance of the plane from the point (1, 2, 2) is

(a) 0 (b) 2 (c) Square Root of 3 (d) 2 Square Root of 2

11.If μs, μk and μr are coefficients of static friction, kinetic friction and rolling friction, then

(a) $\mu s < \mu k < \mu r$ (b) $\mu k < \mu r < \mu s$ (c) $\mu r < \mu k < \mu s$ (d) $\mu r = \mu k = \mu s$

12.Impulse equals

(a) rate of change of momentum (b) change in momentum

(c) momentum multiplied by time (d) rate of change of force

13.'Net force acting on an object is found to be zero.' It can be inferred that the object

(a) May be at rest (b) May be in uniform motion

(c) May be in uniformly accelerated motion (d) Both a & b

14.The coefficient of static friction between two surfaces depends upon

(a) the normal reaction (b) the shape of the surface in contact

(c) the area of contact (d) None of the these

15.Which of the following statements about friction is true?

(a) Friction can be reduced to zero (b) Frictional force cannot accelerate a body

(c) Frictional force is proportional to the area of contact between the two surfaces

(d) Kinetic friction is always greater than rolling friction

16.No work is done if (a) displacement is zero (b) force is zero

(c) force and displacement are mutually perpendicular (d) All of the above

17.Which is the type of collision in which both the linear momentum and the kinetic energy of the system remain conserved?

(a) Inelastic Collision (b) Elastic Collision (c) Destructive collision (d) None of the options

18.Find the potential energy stored in a ball of mass 5 kg placed at a height of 3 m above the ground.

(a) 121 J (b) 147 J (c) 227 J (d) 182 J

19.An electric heater of rating 1000 W is used for 5 hrs per day for 20 days. What is the electrical energy utilized?

(a) 100 kWh (b) 200 kWh (c) 120 kWh (d) 500 kWh

20.The rate of doing work is called_____. (a) Force (b) Acceleration (c) Power (d) Displacemen

21. As an electroplated protective covering, what metal is used?
a) Plutonium b) Chromium
c) Nickel d) Iron
22.Which of the following statements concerning transuranium elements is incorrect?
a) Atomic number > 92 b) Example is Thorium
c) Decay radioactively as they are unstable d) Elements after Uranium
23. Which of the following is not a lanthanide property?
a) They are soft metals with a white silvery colour
b) They tarnish rapidly by air
c) The hardness of the metals increases with increase in the atomic number
d) The melting point of the metal ranges from 500-1000K
24. AgCi fails to pass which of the following tests?
a) Alkaline test b) Acidic test
c) Chromyl chloride test d) Baeyer's reagent test
25. Plotting a graph between temperature and reaction rates can reveal the temperature dependence of reaction rates.

a) Concentration of reactants and temperature
b) Concentration of products and temperature
c) Rate constant and temperature
d) Rate of catalysis and temperature
26. What effect does temperature have on the half-life of a first-order reaction?
a) It increases b) It decreases c) It remains the same d) Both increases as well as decrease
27 28. In 30 minutes, a first-order reaction is 50% complete. Calculate the amount of time it took to complete 87.5 perc of the reaction.
a) 30 minutes b) 60 minutes c) 90 minutes d) 120 minutes
28 27. When the molecules of a substance are kept at the surface of a solid or a liquid, what is the name of the process'
a) Absorption b) Adsorption c) Sorption d) Desorption
29 28. Which of the following assertions about the extent of physisorption is correct?
a) Increases with increase in temperature b) Decreases with increase in surface area

Registrar
R.D. Engineering College
Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

c) Decreases with increase in the strength of Van der Waals forces d) Decreases with increase in temperature

30 29. Which of the following is not a lyophobic colloidal example?

a) Gold solution b) Sulphur solution c) NaCl solution d) Blood.

30. How are different colours used to make gold colloidal solutions?

a) Different diameters of colloidal gold particles b) Variable valency of gold

c) Different concentrations of gold particles d) Impurities produced by different methods

R.D. ENGINEERING COLLEGE,GHAZIABAD

PUSHPLATA SCHOLARSHIP SCHEME(DETAILS)

Session: 2019-20

S.NO	ROLL NO	NAME	FATHER'S NAME	BRANCH	YEAR	TOTAL FEE (Rs)	CONCESSION PROVIDED (Rs)
1	1902310400018	Pratham	Atul Singh	ME	1ST	60000	10000
2	1902310310044	Pankaj Sharma	Sudesh Sharma	ECE	1ST	50000	20000
3	1902310130031	Vaibhav Tyagi	Vinit kumar Tyagi	IT	1st	70000	20000
4	1902310400004	Bhupender Kumar	Vijay Kumar	ME	1st	50000	20000
5	1902310400009	Gajendra Kumar	Ashok Kumar	ME	1st	50000	20000
6	1902310400013	Hemant Kumar	Hari Vilash Mandal	ME	1st	50000	20000
						Total Concession Provided :	₹ 110,000

Registrar
R.D. Engineering College

Director
R.D. Engineering College
Duhai, Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
ASH

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2019-20)

26/30

Name of Applicant: - Hemant Kumar

Father's Name: - ...Hari...Velash Mandal

Branch (to be opted):- ..ME...

Note:- Attempt all Questions. Each question is of 1 mark.

1. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz–plane at the point (0, 17/2, -13/2) Then
   (a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

2. For what value of x, f(x) = |2x – 7| is not derivable.

   (a) 2 (b) 7/2 (c)5 (d) 7

3. The derivative of $\log_3 (3x + 5)$ is

   (a) $\frac{3}{3x+5}\times\log_3(3x+5)$ (b) $\frac{3}{3x+5}$ (c) $\log_3(3x+5)$ (d) 0

4. If $X = e^{y+e^{y+e^{y+\cdots}}}$ then $\frac{dy}{dx}$ is

   (a) $\frac{1}{x}$ (b) $\frac{1-x}{x}$ (c) $\frac{x}{1+x}$ (d) None of these

5. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?
   (b) (a) 10/21 (b) 11/21 (c) 2/7 (d) 5/7

6. Three houses are available in a locality. Three persons apply for the houses. Each applies for one house without consulting others. The probability that all the three apply for the same house is
   (a) 5/9 (b) 1/9 (c) 8/9 (d) 4/9

7. Which of the following sentences is statement-

   (a) Today is cloudy (b) Answer the question (c) Look at here (d) sum of 5 & 2 is 9

8. Negation of the statement. Every natural number is an integer. Is

   (a) Natural no. is rational no. (b) Natural no. is integer. (c) Every natural no. is not an integer. (d) none of these

Registrar
R.D. Engineering College

Director
R.D. Engineering College
Duhai, Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
ASH

9. The statement "$\sqrt{2}$ is complex number" is

(a) True (b) False (c) True as well as False (d) none of these.

10. The difference between a two-digit number and the number obtained by interchanging the positions of its digits is 36. What is the difference between the two digits of that number?

(a) 3 (b) 9 (c) 12 (d) 4

11. Newton's first law of motion describes the

(a) energy (b) work (c) inertia (d) moment of inertia

12. Newton's second and third laws of motion lead to the conservation of

(a) linear momentum (b) angular momentum (c) potential energy (d) kinetic energy

13. Inertia is the property of a body linked to tendency of a body

(a) to change its position (b) to change its direction (c) to change the momentum (d) to resist any change in its state

14. It is difficult to move a cycle with brakes on because

(a) rolling friction opposes motion on road (b) sliding friction opposes motion on road

(c) rolling friction is more than sliding friction (d) sliding friction is more than rolling friction

15.A body subjected to three concurrent forces is found to be in equilibrium. The resultant of any two forces

(a) is equal to third force (b) is opposite to third force (c) is collinear with the third force (d) All of these

16.According to Galileo's experiment for a double inclined plane, if slope of second plane is zero and planes are smooth, then a ball is released from rest on one of the planes rolls down and move on the second plane ...X... distance. Here, X is

(a) zero (b) infinite (c) equal to length of first plane (d) None of these

17.A cannon after firing recoils due to

(a) conservation of energy (b) Newton's second law of motion (c) Newton's third law of motion
(d) Newton's first law of motion

18.Frictional force that opposes relative motion between surfaces in contact is called .....

(a) static friction (b) kinetic friction (c) kinetic friction (d) static friction

19.No force is required for

(c) an object moving with constant acceleration (d) an object moving in elliptical path.

20.Identify the correct statement.

(a) Static friction depends on the area of contact (b) Kinetic friction depends on the area of contact

(c) Coefficient of kinetic friction does not depend on the surfaces in contact

(d) Coefficient of kinetic friction is less than the coefficient of static friction

21. Formaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol b) Ethyl alcohol c) Methyl alcohol d) propyl alcohol

22. In the electrolytic of CuSO4, the reaction Cu2++ 2e► Cu takes place at
a) Anode b) Cathode c) In solution d) None

23. Which metal will dissolve if the cell works, Cu | Cu2+ || Ag+ | Ag
a) Cu b) Ag c) Both d) None

24. The standard reduction potentials of the elements A, B, and C are +2.73V,- 1.85 V and -1.36 respectively. The ord of their reducing power is
a) B > C > A b) A > B > C c) C > B > A d) B > A > C

25. The standard EMF of the cell Zn + Cu2+ Cu + Zn2+ is 1.10 at 250C. The EMF of the cell when 0.1 M Cu2+ 0.1 M Zn2+ solution are used will be
a) +1.10V b) +0.11V c) -1.10V d) – 0.30V

26. A smuggler could not carry gold by depositing iron on the gold surface, because
a) Iron rusts
b) Gold is denser
c) Gold has lower standard reduction potential than iron
d) Gold has higher standard reduction potential than iron

27. The rusting of iron in catalysed by
a) H+ b) O2 c) Zn d) Fe

28. An example of fossil fuel is
a) Wood b) Gobar gas c) Charcoal d) Petrol

29. Purest form of coal is
a) Peat b) Lignite
b) Bituminous d) Anthracite

30. Acetaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol
b) Ethyl alcohol
c) Methyl alcohol
d) propyl alcohol

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2019-20)

Name of Applicant: - Gajendra Kumar

Father's Name: - Ashok Kumar

Branch (to be opted):- ME

25/30

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

1. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz–plane at the point (0, 17/2, -13/2) Then
   (a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

2. For what value of x, f(x) = |2x – 7| is not derivable.

   (a) 2 (b) 7/2 (c) 5 (d) 7

3. The derivative of $\log_3 (3x + 5)$ is

   (a) $\frac{3}{3x+5} \times \log_3(3x+5)$ (b) $\frac{3}{3x+5}$ (c) $\log_3(3x+5)$ (d) 0

4. If $X = e^{y+e^{y+e^{y+\cdots}}}$ then $\frac{dy}{dx}$ is

   (a) $\frac{1}{x}$ (b) $\frac{1-x}{x}$ (c) $\frac{x}{1+x}$ (d) None of these

5. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?
   (b) (a) 10/21 (b) 11/21 (c) 2/7 (d) 5/7

6. Three houses are available in a locality. Three persons apply for the houses. Each applies for one house without consulting others. The probability that all the three apply for the same house is
   (a) 5/9 (b) 1/9 (c) 8/9 (d) 4/9

7. Which of the following sentences is statement-

   (a) Today is cloudy (b) Answer the question (c) Look at here (d) sum of 5 & 2 is 9

8. Negation of the statement. Every natural number is an integer. Is

   (a) Natural no. is rational no. (b) Natural no. is integer. (c) Every natural no. is not an integer. (d) none

Registrar R.D. Engineering College Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

9. The statement "$\sqrt{2}$ is complex number" is

(a) True (b) False (c) True as well as False (d) none of these.

10. The difference between a two-digit number and the number obtained by interchanging the positions of its digits is 36. What is the difference between the two digits of that number?

(a) 3 (b) 9 (c) 12 (d) 4

11. Newton's first law of motion describes the

(a) energy (b) work (c) inertia (d) moment of inertia

12. Newton's second and third laws of motion lead to the conservation of

(a) linear momentum (b) angular momentum (c) potential energy (d) kinetic energy

13. Inertia is the property of a body linked to tendency of a body

(a) to change its position (b) to change its direction (c) to change the momentum (d) to resist any change in its state

14. It is difficult to move a cycle with brakes on because

(a) rolling friction opposes motion on road (b) sliding friction opposes motion on road

(c) rolling friction is more than sliding friction (d) sliding friction is more than rolling friction

15.A body subjected to three concurrent forces is found to be in equilibrium. The resultant of any two forces

(a) is equal to third force (b) is opposite to third force (c) is collinear with the third force (d) All of these

16.According to Galileo's experiment for a double inclined plane, if slope of second plane is zero and planes are smooth, then a ball is released from rest on one of the planes rolls down and move on the second plane ...X... distance. Here, X is

(a) zero (b) infinite (c) equal to length of first plane (d) None of these

17.A cannon after firing recoils due to

(a) conservation of energy (b) Newton's second law of motion (c) Newton's third law of motion
(d) Newton's first law of motion

18.Frictional force that opposes relative motion between surfaces in contact is called .....

(a) static friction (b) kinetic friction (c) kinetic friction (d) static friction

19.No force is required for

(c) an object moving with constant acceleration (d) an object moving in elliptical path.

20.Identify the correct statement.

(a) Static friction depends on the area of contact (b) Kinetic friction depends on the area of contact

(c) Coefficient of kinetic friction does not depend on the surfaces in contact

(d) Coefficient of kinetic friction is less than the coefficient of static friction

21. Formaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol b) Ethyl alcohol c) Methyl alcohol d) propyl alcohol

22. In the electrolytic of CuSO4, the reaction Cu2++ 2e► Cu takes place at
a) Anode b) Cathode c) In solution d) None

23. Which metal will dissolve if the cell works, Cu | Cu2+ || Ag+ | Ag
a) Cu b) Ag c) Both d) None

24. The standard reduction potentials of the elements A, B, and C are +2.73V,- 1.85 V and -1.36 respectively. The ord of their reducing power is
a) B > C > A b) A > B > C c) C > B > A d) B > A > C

25. The standard EMF of the cell Zn + Cu2+ Cu + Zn2+ is 1.10 at 250C. The EMF of the cell when 0.1 M Cu2
0.1 M Zn2+ solution are used will be
a) +1.10V b) +0.11V c) -1.10V d) – 0.30V
26. A smuggler could not carry gold by depositing iron on the gold surface, because
a) Iron rusts
b) Gold is denser
c) Gold has lower standard reduction potential than iron
d) Gold has higher standard reduction potential than iron
27. The rusting of iron in catalysed by
a) H+ b) O2 c) Zn d) Fe

28. An example of fossil fuel is
a) Wood b) Gobar gas c) Charcoal d) Petrol

29. Purest form of coal is
a) Peat
b) Bituminous
c) b) Lignite
d) Anthracite

30. Acetaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol
b) Ethyl alcohol
c) Methyl alcohol
d) propyl alcohol

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2019-20)

25/30

R.D. Engineering College Head ASH

Name of Applicant: - Bhupender Kumar

Father's Name: - Vijay Kumar

Branch (to be opted):- ME

Note:- Attempt all Questions. Each question is of 1 mark.

1. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz–plane at the point (0, 17/2, -13/2) Then
   (a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

2. For what value of x, f(x) = |2x – 7| is not derivable.

   (a) 2 (b) 7/2 (c)5 (d) 7

3. The derivative of $\log_3 (3x + 5)$ is

   (a) $\frac{3}{3x+5}\times\log_3(3x+5)$ (b) $\frac{3}{3x+5}$ (c) $\log_3(3x+5)$ (d) 0

4. If $X = e^{y+e^{y+e^{y+\cdots}}}$ then $\frac{dy}{dx}$ is

   (a) $\frac{1}{x}$ (b) $\frac{1-x}{x}$ (c) $\frac{x}{1+x}$ (d) None of these

5. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?
   (b) (a) 10/21 (b) 11/21 (c) 2/7 (d) 5/7

6. Three houses are available in a locality. Three persons apply for the houses. Each applies for one house without consulting others. The probability that all the three apply for the same house is
   (a) 5/9 (b) 1/9 (c) 8/9 (d) 4/9

7. Which of the following sentences is statement-

   (a) Today is cloudy (b) Answer the question (c) Look at here (d) sum of 5 & 2 is 9

8. Negation of the statement. Every natural number is an integer. Is

   (a) Natural no. is rational no. (b) Natural no. is integer. (c) Every natural no. is not an integer (d) none

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

9. The statement "$\sqrt{2}$ is complex number" is

(a) True (b) False (c) True as well as False (d) none of these.

10. The difference between a two-digit number and the number obtained by interchanging the positions of its digits is 36. What is the difference between the two digits of that number?

(a) 3 (b) 9 (c) 12 (d) 4

11. Newton's first law of motion describes the

(a) energy (b) work (c) inertia (d) moment of inertia

12. Newton's second and third laws of motion lead to the conservation of

(a) linear momentum (b) angular momentum (c) potential energy (d) kinetic energy

13. Inertia is the property of a body linked to tendency of a body

(a) to change its position (b) to change its direction (c) to change the momentum (d) to resist any change in its state

14. It is difficult to move a cycle with brakes on because

(a) rolling friction opposes motion on road (b) sliding friction opposes motion on road

(c) rolling friction is more than sliding friction (d) sliding friction is more than rolling friction

15.A body subjected to three concurrent forces is found to be in equilibrium. The resultant of any two forces

(a) is equal to third force (b) is opposite to third force (c) is collinear with the third force (d) All of these

16.According to Galileo's experiment for a double inclined plane, if slope of second plane is zero and planes are smooth, then a ball is released from rest on one of the planes rolls down and move on the second plane ...X... distance. Here, X is

(a) zero (b) infinite (c) equal to length of first plane (d) None of these

17.A cannon after firing recoils due to

(a) conservation of energy (b) Newton's second law of motion (c) Newton's third law of motion
(d) Newton's first law of motion

18.Frictional force that opposes relative motion between surfaces in contact is called .....

(a) static friction (b) kinetic friction (c) kinetic friction (d) static friction

19.No force is required for

(c) an object moving with constant acceleration (d) an object moving in elliptical path.

20.Identify the correct statement.

(a) Static friction depends on the area of contact (b) Kinetic friction depends on the area of contact

(c) Coefficient of kinetic friction does not depend on the surfaces in contact

(d) Coefficient of kinetic friction is less than the coefficient of static friction

21. Formaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol b) Ethyl alcohol c) Methyl alcohol d) propyl alcohol

22. In the electrolytic of CuSO4, the reaction Cu2++ 2e→ Cu takes place at
a) Anode b) Cathode c) In solution d) None

23. Which metal will dissolve if the cell works, Cu | Cu2+ || Ag+ | Ag
a) Cu b) Ag c) Both d) None

24. The standard reduction potentials of the elements A, B, and C are +2.73V,- 1.85 V and -1.36 respectively. The ord of their reducing power is
a) B > C > A b) A > B > C c) C > B > A d) B > A > C

25. The standard EMF of the cell Zn + Cu2+ Cu + Zn2+ is 1.10 at 250C. The EMF of the cell when 0.1 M Cu2+ 0.1 M Zn2+ solution are used will be
a) +1.10V b) +0.11V c) -1.10V d) – 0.30V

26. A smuggler could not carry gold by depositing iron on the gold surface, because
a) Iron rusts
b) Gold is denser
c) Gold has lower standard reduction potential than iron
d) Gold has higher standard reduction potential than iron

27. The rusting of iron in catalysed by
a) H+ b) O2 c) Zn d) Fe

28. An example of fossil fuel is
a) Wood b) Gobar gas c) Charcoal d) Petrol

29. Purest form of coal is
a) Peat b) Lignite
b) Bituminous d) Anthracite

30. Acetaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol
b) Ethyl alcohol
c) Methyl alcohol
d) propyl alcohol

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2019-20)

26/30

Name of Applicant: - Vaibhav Tyagi

Father's Name: - Vinit Kumar Tyagi

Branch (to be opted):- IT

Note:- Attempt all Questions. Each question is of 1 mark.

1. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz–plane at the point (0, 17/2, -13/2) Then
   (a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

2. For what value of x, f(x) = |2x – 7| is not derivable.

   (a) 2 (b) 7/2 (c) 5 (d) 7

3. The derivative of $\log_3 (3x + 5)$ is

   (a) $\frac{3}{3x+5}\times\log_3(3x+5)$ (b) $\frac{3}{3x+5}$ (c) $\log_3(3x+5)$ (d) 0

4. If $X = e^{y+e^{y+e^{y+\cdots}}}$ then $\frac{dy}{dx}$ is

   (a) $\frac{1}{x}$ (b) $\frac{1-x}{x}$ (c) $\frac{x}{1+x}$ (d) None of these

5. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?
   (b) (a) 10/21 (b) 11/21 (c) 2/7 (d) 5/7

6. Three houses are available in a locality. Three persons apply for the houses. Each applies for one house without consulting others. The probability that all the three apply for the same house is
   (a) 5/9 (b) 1/9 (c) 8/9 (d) 4/9

7. Which of the following sentences is statement-

   (a) Today is cloudy (b) Answer the question (c) Look at here (d) sum of 5 & 2 is 9

8. Negation of the statement. Every natural number is an integer. Is

   (a) Natural no. is rational no. (b) Natural no. is integer. (c) Every natural no. is not an integer. (d) None of these

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

9. The statement "$\sqrt{2}$ is complex number" is

(a) True (b) False (c) True as well as False (d) none of these.

10. The difference between a two-digit number and the number obtained by interchanging the positions of its digits is 36. What is the difference between the two digits of that number?

(a) 3 (b) 9 (c) 12 (d) 4

11. Newton's first law of motion describes the

(a) energy (b) work (c) inertia (d) moment of inertia

12. Newton's second and third laws of motion lead to the conservation of

(a) linear momentum (b) angular momentum (c) potential energy (d) kinetic energy

13. Inertia is the property of a body linked to tendency of a body

(a) to change its position (b) to change its direction (c) to change the momentum (d) to resist any change in its state

14. It is difficult to move a cycle with brakes on because

(a) rolling friction opposes motion on road (b) sliding friction opposes motion on road

(c) rolling friction is more than sliding friction (d) sliding friction is more than rolling friction

15.A body subjected to three concurrent forces is found to be in equilibrium. The resultant of any two forces

(a) is equal to third force (b) is opposite to third force (c) is collinear with the third force (d) All of these

16.According to Galileo's experiment for a double inclined plane, if slope of second plane is zero and planes are smooth, then a ball is released from rest on one of the planes rolls down and move on the second plane ...X... distance. Here, X is

(a) zero (b) infinite (c) equal to length of first plane (d) None of these

17.A cannon after firing recoils due to

(a) conservation of energy (b) Newton's second law of motion (c) Newton's third law of motion
(d) Newton's first law of motion

18.Frictional force that opposes relative motion between surfaces in contact is called .....

(a) static friction (b) kinetic friction (c) kinetic friction (d) static friction

19.No force is required for

(c) an object moving with constant acceleration (d) an object moving in elliptical path.

20.Identify the correct statement.

(a) Static friction depends on the area of contact (b) Kinetic friction depends on the area of contact

(c) Coefficient of kinetic friction does not depend on the surfaces in contact

(d) Coefficient of kinetic friction is less than the coefficient of static friction

21. Formaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol b) Ethyl alcohol c) Methyl alcohol d) propyl alcohol

22. In the electrolytic of CuSO4, the reaction Cu2++ 2e► Cu takes place at
a) Anode b) Cathode c) In solution d) None

23. Which metal will dissolve if the cell works, Cu | Cu2+ || Ag+ | Ag
a) Cu b) Ag c) Both d) None

24. The standard reduction potentials of the elements A, B, and C are +2.73V,- 1.85 V and -1.36 respectively. The ord of their reducing power is
a) B > C > A b) A > B > C c) C > B > A d) B > A > C

25. The standard EMF of the cell Zn + Cu2+ Cu + Zn2+ is 1.10 at 250C. The EMF of the cell when 0.1 M Cu2+ 0.1 M Zn2+ solution are used will be
a) +1.10V b) +0.11V c) -1.10V d) – 0.30V

26. A smuggler could not carry gold by depositing iron on the gold surface, because
a) Iron rusts
b) Gold is denser
c) Gold has lower standard reduction potential than iron
d) Gold has higher standard reduction potential than iron

27. The rusting of iron in catalysed by
a) H+ b) O2 c) Zn d) Fe

28. An example of fossil fuel is
a) Wood b) Gobar gas c) Charcoal d) Petrol

29. Purest form of coal is
a) Peat b) Lignite
b) Bituminous d) Anthracite

30. Acetaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol
b) Ethyl alcohol
c) Methyl alcohol
d) propyl alcohol

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2019-20)

27/30

Name of Applicant: - Pankaj sharma

Father's Name: - Sudesh sharma

Branch (to be opted):- ECE

Note:- Attempt all Questions. Each question is of 1 mark.

1. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz–plane at the point (0, 17/2, -13/2) Then
   (a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

2. For what value of x, f(x) = |2x – 7| is not derivable.

   (a) 2 (b) 7/2 (c)5 (d) 7

3. The derivative of $\log_3 (3x + 5)$ is

   (a) $\frac{3}{3x+5}\times\log_3(3x+5)$ (b) $\frac{3}{3x+5}$ (c) $\log_3(3x+5)$ (d) 0

4. If $X = e^{y+e^{y+e^{y+\cdots}}}$ then $\frac{dy}{dx}$ is

   (a) $\frac{1}{x}$ (b) $\frac{1-x}{x}$ (c) $\frac{x}{1+x}$ (d) None of these

5. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?
   (b) (a) 10/21 (b) 11/21 (c) 2/7 (d) 5/7

6. Three houses are available in a locality. Three persons apply for the houses. Each applies for one house without consulting others. The probability that all the three apply for the same house is
   (a) 5/9 (b) 1/9 (c) 8/9 (d) 4/9

7. Which of the following sentences is statement-

   (a) Today is cloudy (b) Answer the question (c) Look at here (d) sum of 5 & 2 is 9

8. Negation of the statement. Every natural number is an integer. Is

   (a) Natural no. is rational no. (b) Natural no. is integer. (c) Every natural no. is not an integer. (d) none of these

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

9. The statement "$\sqrt{2}$ is complex number" is

(a) True (b) False (c) True as well as False (d) none of these.

10. The difference between a two-digit number and the number obtained by interchanging the positions of its digits is 36. What is the difference between the two digits of that number?

(a) 3 (b) 9 (c) 12 (d) 4

11. Newton's first law of motion describes the

(a) energy (b) work (c) inertia (d) moment of inertia

12. Newton's second and third laws of motion lead to the conservation of

(a) linear momentum (b) angular momentum (c) potential energy (d) kinetic energy

13. Inertia is the property of a body linked to tendency of a body

(a) to change its position (b) to change its direction (c) to change the momentum (d) to resist any change in its state

14. It is difficult to move a cycle with brakes on because

(a) rolling friction opposes motion on road (b) sliding friction opposes motion on road

(c) rolling friction is more than sliding friction (d) sliding friction is more than rolling friction

15.A body subjected to three concurrent forces is found to be in equilibrium. The resultant of any two forces

(a) is equal to third force (b) is opposite to third force (c) is collinear with the third force (d) All of these

16.According to Galileo's experiment for a double inclined plane, if slope of second plane is zero and planes are smooth, then a ball is released from rest on one of the planes rolls down and move on the second plane ...X... distance. Here, X is

(a) zero (b) infinite (c) equal to length of first plane (d) None of these

17.A cannon after firing recoils due to

(a) conservation of energy (b) Newton's second law of motion (c) Newton's third law of motion
(d) Newton's first law of motion

18.Frictional force that opposes relative motion between surfaces in contact is called .....

(a) static friction (b) kinetic friction (c) kinetic friction (d) static friction

19.No force is required for

(c) an object moving with constant acceleration (d) an object moving in elliptical path.

20.Identify the correct statement.

(a) Static friction depends on the area of contact (b) Kinetic friction depends on the area of contact

(c) Coefficient of kinetic friction does not depend on the surfaces in contact

(d) Coefficient of kinetic friction is less than the coefficient of static friction

21. Formaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol b) Ethyl alcohol c) Methyl alcohol d) propyl alcohol

22. In the electrolytic of CuSO4, the reaction Cu2++ 2e→ Cu takes place at
a) Anode b) Cathode c) In solution d) None

23. Which metal will dissolve if the cell works, Cu | Cu2+ || Ag+ | Ag
a) Cu b) Ag c) Both d) None

24. The standard reduction potentials of the elements A, B, and C are +2.73V,- 1.85 V and -1.36 respectively. The ord of their reducing power is
a) B > C > A b) A > B > C c) C > B > A d) B > A > C

25. The standard EMF of the cell Zn + Cu2+ → Cu + Zn2+ is 1.10 at 250C. The EMF of the cell when 0.1 M Cu2+ 0.1 M Zn2+ solution are used will be
a) +1.10V b) +0.11V c) -1.10V d) – 0.30V

26. A smuggler could not carry gold by depositing iron on the gold surface, because
a) Iron rusts
b) Gold is denser
c) Gold has lower standard reduction potential than iron
d) Gold has higher standard reduction potential than iron

27. The rusting of iron in catalysed by
a) H+ b) O2 c) Zn d) Fe

28. An example of fossil fuel is
a) Wood b) Gobar gas c) Charcoal d) Petrol

29. Purest form of coal is
a) Peat b) Lignite
b) Bituminous d) Anthracite

30. Acetaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol
b) Ethyl alcohol
c) Methyl alcohol
d) propyl alcohol

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2019-20)

Name of Applicant: - ...Pratham

Father's Name: - ..... Atul singh

Branch (to be opted):- .....ME

23/30

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

1. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz–plane at the point (0, 17/2, -13/2) Then
(a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

2. For what value of x, f(x) = |2x – 7| is not derivable.

(a) 2 (b) 7/2 (c)5 (d) 7

3. The derivative of $\log_3 (3x + 5)$ is

(a) $\frac{3}{3x+5} \times \log_3(3x+5)$ (b) $\frac{3}{3x+5}$ (c) $\log_3(3x+5)$ (d) 0

4. If $X = e^{y+e^{y+e^{y+\cdots}}}$ then $\frac{dy}{dx}$ is

(a) $\frac{1}{x}$ (b) $\frac{1-x}{x}$ (c) $\frac{x}{1+x}$ (d) None of these

5. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?
(b) (a) 10/21 (b) 11/21 (c) 2/7 (d) 5/7

6. Three houses are available in a locality. Three persons apply for the houses. Each applies for one house without consulting others. The probability that all the three apply for the same house is
(a) 5/9 (b) 1/9 (c) 8/9 (d) 4/9

7. Which of the following sentences is statement-

(a) Today is cloudy (b) Answer the question (c) Look at here (d) sum of 5 & 2 is 9

8. Negation of the statement. Every natural number is an integer. Is

(a) Natural no. is rational no. (b) Natural no. is integer. (c) Every natural no. is not an integer. (d) none of these.

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

9. The statement "$\sqrt{2}$ is complex number" is

(a) True (b) False (c) True as well as False (d) none of these.

10. The difference between a two-digit number and the number obtained by interchanging the positions of its digits is 36. What is the difference between the two digits of that number?

(a) 3 (b) 9 (c) 12 (d) 4

11. Newton's first law of motion describes the

(a) energy (b) work (c) inertia (d) moment of inertia

12. Newton's second and third laws of motion lead to the conservation of

(a) linear momentum (b) angular momentum (c) potential energy (d) kinetic energy

13. Inertia is the property of a body linked to tendency of a body

(a) to change its position (b) to change its direction (c) to change the momentum (d) to resist any change in its state

14. It is difficult to move a cycle with brakes on because

(a) rolling friction opposes motion on road (b) sliding friction opposes motion on road

(c) rolling friction is more than sliding friction (d) sliding friction is more than rolling friction

15.A body subjected to three concurrent forces is found to be in equilibrium. The resultant of any two forces

(a) is equal to third force (b) is opposite to third force (c) is collinear with the third force (d) All of these

16.According to Galileo's experiment for a double inclined plane, if slope of second plane is zero and planes are smooth, then a ball is released from rest on one of the planes rolls down and move on the second plane ...X... distance. Here, X is

(a) zero (b) infinite (c) equal to length of first plane (d) None of these

17.A cannon after firing recoils due to

(a) conservation of energy (b) Newton's second law of motion (c) Newton's third law of motion (d) Newton's first law of motion

18.Frictional force that opposes relative motion between surfaces in contact is called .....

(a) static friction (b) kinetic friction (c) kinetic friction (d) static friction

19.No force is required for

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

(c) an object moving with constant acceleration (d) an object moving in elliptical path.

20.Identify the correct statement.

(a) Static friction depends on the area of contact (b) Kinetic friction depends on the area of contact

(c) Coefficient of kinetic friction does not depend on the surfaces in contact

(d) Coefficient of kinetic friction is less than the coefficient of static friction

21. Formaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol b) Ethyl alcohol c) Methyl alcohol d) propyl alcohol

22. In the electrolytic of CuSO4, the reaction Cu2++ 2e► Cu takes place at
a) Anode b) Cathode c) In solution d) None

23. Which metal will dissolve if the cell works, Cu | Cu2+ || Ag+ | Ag
a) Cu b) Ag c) Both d) None

24. The standard reduction potentials of the elements A, B, and C are +2.73V,- 1.85 V and -1.36 respectively. The order of their reducing power is
a) B > C > A b) A > B > C c) C > B > A d) B > A > C

25. The standard EMF of the cell Zn + Cu2+ Cu + Zn2+ is 1.10 at 250C. The EMF of the cell when 0.1 M Cu2+ and 0.1 M Zn2+ solution are used will be
a) +1.10V b) +0.11V c) -1.10V d) – 0.30V

26. A smuggler could not carry gold by depositing iron on the gold surface, because
a) Iron rusts
b) Gold is denser
c) Gold has lower standard reduction potential than iron
d) Gold has higher standard reduction potential than iron

27. The rusting of iron in catalysed by
a) H+ b) O2 c) Zn d) Fe

28. An example of fossil fuel is
a) Wood b) Gobar gas c) Charcoal d) Petrol

29. Purest form of coal is
a) Peat b) Lignite
b) Bituminous d) Anthracite

30. Acetaldehyde form an addition product with CH3 MgI which on hydrolysis gives
a) Isopropyl alcohol
b) Ethyl alcohol
c) Methyl alcohol
d) propyl alcohol

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. ENGINEERING COLLEGE,GHAZIABAD

PUSHPLATA SCHOLARSHIP SCHEME(DETAILS)

Session: 2018-19

S.NO	ROLL NO	NAME	FATHER'S NAME	BRANCH	YEAR	TOTAL FEE (Rs)	CONCESSION PROVIDED (Rs)
1	1823110002	Aaryan Tyagi	Arun Tyagi	CS	1ST	81482	25668
2	1823110032	Himanshu Agarwal	Praveen Kr. Agarwal	CS	1st	81482	25668
3	1823110049	Mayank Tyagi	Rajesh Tyagi	CS	1st	81482	25668
4	1823110061	Nipun Sharma	Yogesh Kumar	CS	1st	81482	25668
5	1823110068	Paras Goel	Subhash Goel	CS	1st	81482	25668
6	1823110077	Prateek Mani Tripathi	Rajesh Mani Tripathi	CS	1st	81482	25668
7	1823110109	Tushar Kansal	Subhash	CS	1st	81482	25668
8	1823110111	Ujjawal	Magendra Tyagi	CS	1st	81482	25668
						Total Consession Provided :	₹ 205,344

Registrar
R.D. Engineering College
Ghaziabad

R.D. Engineering College
Head
ASH

Director
R.D. Engineering College
Duhai, Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2018-19)

29/30

Name of Applicant: - Aaryan Tyagi

Father's Name: - Arun Tyagi

Branch (to be opted):- CS

Note:- Attempt all Questions. Each question is of 1 mark.

1 If the amplitude of a complex number is $\pi/2$ then the number is

(a) purely imaginary (b) purely real (c) 0 (d) neither real nor imaginary

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3 In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

(a) 810 (b) 1440 (c) 2880 (d) 50400

4 Let R = {(3,1),(2,4),(4,2),(3,2),(1,3)} be a relation on the set A = { 4,3,2,1 }. The relation R is

(a) a function (b) transitive (c) not symmetric (d) reflexive.

5. In triangle ABC, we are given that 3 sin A + 4 cos B = 6 and 4 sin B + 3 cos A = 1. Then the measure of the angle is

(a) 30° (b) 150° (c) 60° (d) 75°

6. The number of values of x in the interval $[0, 3\pi]$ satisfying the equation $2\sin^2 x + 5\sin x - 3 = 0$ is

(a) 4 (b) 6 (c) 1 (d) 2

7. The line $y=mx+c$ intersects the circle $x^2+y^2=a^2$ at the most of _____ points.

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

8 The line $5x - 2y + 4k = 0$ is a tangent to $4x^2 - y^2 = 36$ then k is

(a) 4/9 (b) 2/3 (c) 9/4 (d) 81/16

9. The center of the circle $4x^2+4y^2-8x+12y-25=0$ is ?

(a) (1,2) (b) (-1,3/2) (c) (-3/2,1) (d) (1,-3/2)

10. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz−plane at the point (0, 2, -3/2). The

(a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

R.D. Engineering College Head ASH

11.The pair of quantities having the same dimensions is

(a) Displacement, velocity (b) time, frequency (c) Wavelength, focal length (d) force, acceleration

12. Average distance of the Sun from the Earth

(a) light year (b) astronomical unit (c) fermi (d) parsec

13.The number of significant figures in the number 0.0028 is,

(a) 2 (b) 3 (c) 4 (d) 5

14.Which of the following is not the unit of time

(a) second (b) minute (c) month (d) light year

15.If $x = a + bt + ct^2$, where x is in metre and t in second, then what is the unit of 'c'?

(a) m/s (b) m/s^2 (c) kgm/s (d) m^2/s

16.The base quantity among the following is,

(a) Speed (b) area (c) length (d) weight

17. Dimensional analysis can be applied to

(a) to check the correctness of a physical equation. (b) to derive the relationship between different physical quantities.

(c) to convert a physical quantity from one system of units to other. (d) All of the above

18.Which of the following physical quantity has the dimensional formula $[M^1L^2T^{-3}]$

(a) work (b) power (c) work (d) impulse

19.The dimensions of universal gravitational constant is

(a) $[M^{-1}L^3T^{-2}]$ (b) $[M^1L^1T^{-2}]$ (c) $[M^{-1}L^2T^{-2}]$ (d) $[M^1L^{-1}T^{-1}]$

20.Which of the following is dimensionless

(a) force/acceleration

(b) velocity/acceleration

(c) volume/area

(d) energy/work

21.Scale may be formed inside the boiler due to decomposition of:

a) $Ca(HCO_3)_2$

b) $MgCO_3$

c) $MgCl_2$

d) $CaCl_2$

22. The chemical formula of zeolite is _____.
a) $FeSO_4.7H_2O$
b) $Al2(SO_4)_3.18\ H_2O$
c) $Na_2O.Al_2O_3.xSiO_2.yH_2O$
d) $Na_2Al_2O_3$

23.Which bond has the highest bond energy

O2 b) O_2^{+2} c) O_2^{2-} d) O^{2-}

24.When silicon (Si) is doped with phosphorous (P) we get

a) p-type semiconductor b) n-type semiconductor

c) Insulator d) Intrinsic semiconductor

25.A pi-bond is formed by sideway overlapping of

a) s-s orbitals b) p-p orbitals

c) s-p orbitals d) s-p-s orbitals

26. Temporary hardness of water can be removed by

a) Boiling

b) Filtration

c) Screening

d) Sedimentation

27. Suspension of milk is

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai Ghaziabad

Registrar
R.D. Engineering College
Ghaziabad

a) $CaCl_2$ b) $Ca(OH)_2$ c) NaCl d) $MgCl_2$

28. Which of the following is not a Polyamide

a) Leather b) Natural rubber c) Wool d) Nylon-66

29. The catalyst used in the manufacture of polyethene by Ziegler method is

a) Lithium tetrachloride and triphenyl aluminium

b) Titanium tetrachloride and trimethyl aluminium

c) Titanium oxide

d) Titanium isoperoxide

30. When CH_3 MgI is made to react with acetone and the addition product is hydrloysed we get

a) Primary alcohol b) Secondary alcohol

c) Tertiary alcohol d) An aldehyde

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2018-19)

Name of Applicant: - ..Himanshu Agarwal

Father's Name: - ..Praveen..Kr. Agarwal

Branch (to be opted):- ..CS.....

28/30

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

1 If the amplitude of a complex number is $\pi/2$ then the number is

(a) purely imaginary (b) purely real (c) 0 (d) neither real nor imaginary

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3 In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

(a) 810 (b) 1440 (c) 2880 (d) 50400

4 Let R = {(3,1),(2,4),(4,2),(3,2),(1,3)} be a relation on the set A = { 4,3,2,1 }. The relation R is

(a) a function (b) transitive (c) not symmetric (d) reflexive.

5. In triangle ABC, we are given that 3 sin A + 4 cos B = 6 and 4 sin B + 3 cos A = 1. Then the measure of the angle is

(a) 30° (b) 150° (c) 60° (d) 75°

6. The number of values of x in the interval $[0, 3\pi]$ satisfying the equation $2\sin^2 x + 5\sin x - 3 = 0$ is

(a) 4 (b) 6 (c) 1 (d) 2

7. The line $y=mx+c$ intersects the circle $x^2+y^2=a^2$ at the most of _____ points.

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

8 The line $5x - 2y + 4k = 0$ is a tangent to $4x^2 - y^2 = 36$ then k is

(a) 4/9 (b) 2/3 (c) 9/4 (d) 81/16

9. The center of the circle $4x^2+4y^2-8x+12y-25=0$ is ?

(a) (1,2) (b) (-1,3/2) (c) (-3/2,1) (d) (1,-3/2)

10. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz–plane at the point (0, -2, -13/2). The

(a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

11.The pair of quantities having the same dimensions is

(a) Displacement, velocity (b) time, frequency (c) Wavelength, focal length (d) force, acceleration

12. Average distance of the Sun from the Earth

(a) light year (b) astronomical unit (c) fermi (d) parsec

13.The number of significant figures in the number 0.0028 is,

(a) 2 (b) 3 (c) 4 (d) 5

14.Which of the following is not the unit of time

(a) second (b) minute (c) month (d) light year

15.If $x = a + bt + ct^2$, where x is in metre and t in second, then what is the unit of 'c'?

(a) m/s (b) m/s^2 (c) kgm/s (d) m^2/s

16.The base quantity among the following is,

(a) Speed (b) area (c) length (d) weight

17. Dimensional analysis can be applied to

(a) to check the correctness of a physical equation. (b) to derive the relationship between different physical quantities.

(c) to convert a physical quantity from one system of units to other. (d) All of the above

18.Which of the following physical quantity has the dimensional formula $[M^1L^2T^{-3}]$

(a) work (b) power (c) work (d) impulse

19.The dimensions of universal gravitational constant is

(a) $[M^{-1}L^3T^{-2}]$ (b) $[M^1L^1T^{-2}]$ (c) $[M^{-1}L^2T^{-2}]$ (d) $[M^1L^{-1}T^{-1}]$

20.Which of the following is dimensionless

(a) force/acceleration

(b) velocity/acceleration

(c) volume/area

(d) energy/work

21.Scale may be formed inside the boiler due to decomposition of:

a) $Ca(HCO_3)_2$

b) $MgCO_3$

c) $MgCl_2$

d) $CaCl_2$

22. The chemical formula of zeolite is _____.
a) $FeSO_4.7H_2O$
b) $Al2(SO_4)_3.18\ H_2O$
c) $Na_2O.Al_2O_3.xSiO_2.yH_2O$
d) $Na_2Al_2O_3$

23.Which bond has the highest bond energy

O2 b) O_2^{+2} c) O_2^{2-} d) O^{2-}

24.When silicon (Si) is doped with phosphorous (P) we get

a) p-type semiconductor b) n-type semiconductor

c) Insulator d) Intrinsic semiconductor

25.A pi-bond is formed by sideway overlapping of

a) s-s orbitals b) p-p orbitals

c) s-p orbitals d) s-p-s orbitals

26. Temporary hardness of water can be removed by

a) Boiling

b) Filtration

c) Screening

d) Sedimentation

27. Suspension of milk is

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

a) $CaCl_2$ b) $Ca(OH)_2$ c) NaCl d) $MgCl_2$

28. Which of the following is not a Polyamide

a) Leather b) Natural rubber c) Wool d) Nylon-66

29. The catalyst used in the manufacture of polyethene by Ziegler method is

a) Lithium tetrachloride and triphenyl aluminium

b) Titanium tetrachloride and trimethyl aluminium

c) Titanium oxide

d) Titanium isoperoxide

30. When CH_3 MgI is made to react with acetone and the addition product is hydrloysed we get

a) Primary alcohol b) Secondary alcohol

c) Tertiary alcohol d) An aldehyde

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2018-19)

Name of Applicant: - ..~~Many~~ mayank tyagi

Father's Name: - ..... Rajesh tyagi

Branch (to be opted):- ..CS.....

27/30

R.D. Engineering College Head

Note:- Attempt all Questions. Each question is of 1 mark.

1 If the amplitude of a complex number is $\pi/2$ then the number is

(a) purely imaginary (b) purely real (c) 0 (d) neither real nor imaginary

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3 In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

(a) 810 (b) 1440 (c) 2880 (d) 50400

4 Let R = {(3,1),(2,4),(4,2),(3,2),(1,3)} be a relation on the set A = { 4,3,2,1 }. The relation R is

(a) a function (b) transitive (c) not symmetric (d) reflexive.

5. In triangle ABC, we are given that 3 sin A + 4 cos B = 6 and 4 sin B + 3 cos A = 1. Then the measure of the angle is

(a) 30° (b) 150° (c) 60° (d) 75°

6. The number of values of x in the interval $[0, 3\pi]$ satisfying the equation $2\sin^2 x + 5\sin x - 3 = 0$ is

(a) 4 (b) 6 (c) 1 (d) 2

7. The line $y=mx+c$ intersects the circle $x^2+y^2=a^2$ at the most of _____ points.

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

8 The line $5x - 2y + 4k = 0$ is a tangent to $4x^2 - y^2 = 36$ then k is

(a) 4/9 (b) 2/3 (c) 9/4 (d) 81/16

9. The center of the circle $4x^2+4y^2-8x+12y-25=0$ is ?

(a) (1,2) (b) (-1,3/2) (c) (-3/2,1) (d) (1,-3/2)

Registrar R.D. Engineering College Ghaziabad

10. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz–plane at the point (0, 17/2, -13/2). The

(a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

11.The pair of quantities having the same dimensions is

(a) Displacement, velocity (b) time, frequency (c) Wavelength, focal length (d) force, acceleration

12. Average distance of the Sun from the Earth

(a) light year (b) astronomical unit (c) fermi (d) parsec

13.The number of significant figures in the number 0.0028 is,

(a) 2 (b) 3 (c) 4 (d) 5

14.Which of the following is not the unit of time

(a) second (b) minute (c) month (d) light year

15.If $x = a + bt + ct^2$, where x is in metre and t in second, then what is the unit of 'c'?

(a) m/s (b) m/s^2 (c) kgm/s (d) m^2/s

16.The base quantity among the following is,

(a) Speed (b) area (c) length (d) weight

17. Dimensional analysis can be applied to

(a) to check the correctness of a physical equation. (b) to derive the relationship between different physical quantities.

(c) to convert a physical quantity from one system of units to other. (d) All of the above

18.Which of the following physical quantity has the dimensional formula $[M^1L^2T^{-3}]$

(a) work (b) power (c) work (d) impulse

19.The dimensions of universal gravitational constant is

(a) $[M^{-1}L^3T^{-2}]$ (b) $[M^1L^1T^{-2}]$ (c) $[M^{-1}L^2T^{-2}]$ (d) $[M^1L^{-1}T^{-1}]$

20.Which of the following is dimensionless

(a) force/acceleration

(b) velocity/acceleration

(c) volume/area

(d) energy/work

21.Scale may be formed inside the boiler due to decomposition of:

a) $Ca(HCO_3)_2$

b) $MgCO_3$

c) $MgCl_2$

d) $CaCl_2$

22. The chemical formula of zeolite is _____.
a) $FeSO_4.7H_2O$
b) $Al2(SO_4)_3.18\ H_2O$
c) $Na_2O.Al_2O_3.xSiO_2.yH_2O$
d) $Na_2Al_2O_3$

23.Which bond has the highest bond energy

O2 b) O_2^{+2} c) O_2^{2-} d) O^{2-}

24.When silicon (Si) is doped with phosphorous (P) we get

a) p-type semiconductor b) n-type semiconductor

c) Insulator d) Intrinsic semiconductor

25.A pi-bond is formed by sideway overlapping of

a) s-s orbitals b) p-p orbitals

c) s-p orbitals d) s-p-s orbitals

26. Temporary hardness of water can be removed by

a) Boiling

b) Filtration

c) Screening

d) Sedimentation

27. Suspension of milk is

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

a) $CaCl_2$ b) $Ca(OH)_2$ c) NaCl d) $MgCl_2$

28. Which of the following is not a Polyamide

a) Leather b) Natural rubber c) Wool d) Nylon-66

29. The catalyst used in the manufacture of polyethene by Ziegler method is

a) Lithium tetrachloride and triphenyl aluminium

b) Titanium tetrachloride and trimethyl aluminium

c) Titanium oxide

d) Titanium isoperoxide

30. When CH_3 MgI is made to react with acetone and the addition product is hydrloysed we get

a) Primary alcohol b) Secondary alcohol

c) Tertiary alcohol d) An aldehyde

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2018-19)

28/30

Name of Applicant: - ..Nipun Sharma

Father's Name: - .....Yagesh Kumar

Branch (to be opted):- .....CS

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

1 If the amplitude of a complex number is $\pi/2$ then the number is

(a) purely imaginary (b) purely real (c) 0 (d) neither real nor imaginary

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3 In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

(a) 810 (b) 1440 (c) 2880 (d) 50400

4 Let R = {(3,1),(2,4),(4,2),(3,2),(1,3)} be a relation on the set A = { 4,3,2,1 }. The relation R is

(a) a function (b) transitive (c) not symmetric (d) reflexive.

5. In triangle ABC, we are given that 3 sin A + 4 cos B = 6 and 4 sin B + 3 cos A = 1. Then the measure of the angl is

(a) 30° (b) 150° (c) 60° (d) 75°

6. The number of values of x in the interval $[0, 3\pi]$ satisfying the equation $2\sin^2 x + 5\sin x - 3 = 0$ is

(a) 4 (b) 6 (c) 1 (d) 2

7. The line $y=mx+c$ intersects the circle $x^2+y^2=a^2$ at the most of _____ points.

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

8 The line $5x - 2y + 4k = 0$ is a tangent to $4x^2 - y^2 = 36$ then k is

(a) 4/9 (b) 2/3 (c) 9/4 (d) 81/16

9. The center of the circle $4x^2+4y^2-8x+12y-25=0$ is ?

(a) (1,2) (b) (-1,3/2) (c) (-3/2,1) (d) (1,-3/2)

10. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz−plane at the point (0, 17/2, -13/2)

(a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

11.The pair of quantities having the same dimensions is

(a) Displacement, velocity (b) time, frequency (c) Wavelength, focal length (d) force, acceleration

12. Average distance of the Sun from the Earth

(a) light year (b) astronomical unit (c) fermi (d) parsec

13.The number of significant figures in the number 0.0028 is,

(a) 2 (b) 3 (c) 4 (d) 5

14.Which of the following is not the unit of time

(a) second (b) minute (c) month (d) light year

15.If $x = a + bt + ct^2$, where x is in metre and t in second, then what is the unit of 'c'?

(a) m/s (b) m/s^2 (c) kgm/s (d) m^2/s

16.The base quantity among the following is,

(a) Speed (b) area (c) length (d) weight

17. Dimensional analysis can be applied to

(a) to check the correctness of a physical equation. (b) to derive the relationship between different physical quantities.

(c) to convert a physical quantity from one system of units to other. (d) All of the above

18.Which of the following physical quantity has the dimensional formula $[M^1L^2T^{-3}]$

(a) work (b) power (c) work (d) impulse

19.The dimensions of universal gravitational constant is

(a) $[M^{-1}L^3T^{-2}]$ (b) $[M^1L^1T^{-2}]$ (c) $[M^{-1}L^2T^{-2}]$ (d) $[M^1L^{-1}T^{-1}]$

20.Which of the following is dimensionless

(a) force/acceleration

(b) velocity/acceleration

(c) volume/area

(d) energy/work

21.Scale may be formed inside the boiler due to decomposition of:

a) $Ca(HCO_3)_2$

b) $MgCO_3$

c) $MgCl_2$

d) $CaCl_2$

22. The chemical formula of zeolite is _____.
a) $FeSO_4.7H_2O$
b) $Al2(SO_4)_3.18\ H_2O$
c) $Na_2O.Al_2O_3.xSiO_2.yH_2O$
d) $Na_2Al_2O_3$

23.Which bond has the highest bond energy

O2 b) O_2^{+2} c) O_2^{2-} d) O^{2-}

24.When silicon (Si) is doped with phosphorous (P) we get

a) p-type semiconductor b) n-type semiconductor

c) Insulator d) Intrinsic semiconductor

25.A pi-bond is formed by sideway overlapping of

a) s-s orbitals b) p-p orbitals

c) s-p orbitals d) s-p-s orbitals

26. Temporary hardness of water can be removed by

a) Boiling

b) Filtration

c) Screening

d) Sedimentation

27. Suspension of milk is

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

a) $CaCl_2$ b) $Ca(OH)_2$ c) NaCl d) $MgCl_2$

28. Which of the following is not a Polyamide

a) Leather b) Natural rubber c) Wool d) Nylon-66

29. The catalyst used in the manufacture of polyethene by Ziegler method is

a) Lithium tetrachloride and triphenyl aluminium

b) Titanium tetrachloride and trimethyl aluminium

c) Titanium oxide

d) Titanium isoperoxide

30. When CH_3 MgI is made to react with acetone and the addition product is hydrloysed we get

a) Primary alcohol b) Secondary alcohol

c) Tertiary alcohol d) An aldehyde

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2018-19)

Name of Applicant: - Paras Goel

Father's Name: - Subhash Goel

Branch (to be opted):- CS

28/30

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

1 If the amplitude of a complex number is $\pi/2$ then the number is

(a) purely imaginary (b) purely real (c) 0 (d) neither real nor imaginary

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3 In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

(a) 810 (b) 1440 (c) 2880 (d) 50400

4 Let R = {(3,1),(2,4),(4,2),(3,2),(1,3)} be a relation on the set A = { 4,3,2,1 }. The relation R is

(a) a function (b) transitive (c) not symmetric (d) reflexive.

5. In triangle ABC, we are given that 3 sin A + 4 cos B = 6 and 4 sin B + 3 cos A = 1. Then the measure of the angle is

(a) 30° (b) 150° (c) 60° (d) 75°

6. The number of values of x in the interval [0, 3π] satisfying the equation $2\sin^2 x + 5\sin x - 3 = 0$ is

(a) 4 (b) 6 (c) 1 (d) 2

7. The line $y=mx+c$ intersects the circle $x^2+y^2=a^2$ at the most of _____ points.

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

8 The line $5x - 2y + 4k = 0$ is a tangent to $4x^2 - y^2 = 36$ then k is

(a) 4/9 (b) 2/3 (c) 9/4 (d) 81/16

9. The center of the circle $4x^2+4y^2-8x+12y-25=0$ is ?

(a) (1,2) (b) (-1,3/2) (c) (-3/2,1) (d) (1,-3/2)

10. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz–plane at the point (0, 17/2, -13/2)

(a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

Registrar R.D. Engineering College Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

Dean Academics R.D. Engineering College Duhai

11.The pair of quantities having the same dimensions is

(a) Displacement, velocity (b) time, frequency (c) Wavelength, focal length (d) force, acceleration

12. Average distance of the Sun from the Earth

(a) light year (b) astronomical unit (c) fermi (d) parsec

13.The number of significant figures in the number 0.0028 is,

(a) 2 (b) 3 (c) 4 (d) 5

14.Which of the following is not the unit of time

(a) second (b) minute (c) month (d) light year

15.If $x = a + bt + ct^2$, where x is in metre and t in second, then what is the unit of 'c'?

(a) m/s (b) m/s^2 (c) kgm/s (d) m^2/s

16.The base quantity among the following is,

(a) Speed (b) area (c) length (d) weight

17. Dimensional analysis can be applied to

(a) to check the correctness of a physical equation. (b) to derive the relationship between different physical quantities.

(c) to convert a physical quantity from one system of units to other. (d) All of the above

18.Which of the following physical quantity has the dimensional formula $[M^1L^2T^{-3}]$

(a) work (b) power (c) work (d) impulse

19.The dimensions of universal gravitational constant is

(a) $[M^{-1}L^3T^{-2}]$ (b) $[M^1L^1T^{-2}]$ (c) $[M^{-1}L^2T^{-2}]$ (d) $[M^1L^{-1}T^{-1}]$

20.Which of the following is dimensionless

(a) force/acceleration

(b) velocity/acceleration

(c) volume/area

(d) energy/work

21.Scale may be formed inside the boiler due to decomposition of:

a) $Ca(HCO_3)_2$

b) $MgCO_3$

c) $MgCl_2$

d) $CaCl_2$

22. The chemical formula of zeolite is _____.
a) $FeSO_4.7H_2O$
b) $Al2(SO_4)_3.18\ H_2O$
c) $Na_2O.Al_2O_3.xSiO_2.yH_2O$
d) $Na_2Al_2O_3$

23.Which bond has the highest bond energy

O2 b) O_2^{+2} c) O_2^{2-} d) O^{2-}

24.When silicon (Si) is doped with phosphorous (P) we get

a) p-type semiconductor b) n-type semiconductor

c) Insulator d) Intrinsic semiconductor

25.A pi-bond is formed by sideway overlapping of

a) s-s orbitals b) p-p orbitals

c) s-p orbitals d) s-p-s orbitals

26. Temporary hardness of water can be removed by

a) Boiling

b) Filtration

c) Screening

d) Sedimentation

27. Suspension of milk is

a) $CaCl_2$ b) $Ca(OH)_2$ c) NaCl d) $MgCl_2$

28. Which of the following is not a Polyamide

a) Leather b) Natural rubber c) Wool d) Nylon-66

29. The catalyst used in the manufacture of polyethene by Ziegler method is

a) Lithium tetrachloride and triphenyl aluminium

b) Titanium tetrachloride and trimethyl aluminium

c) Titanium oxide

d) Titanium isoperoxide

30. When CH_3 MgI is made to react with acetone and the addition product is hydrloysed we get

a) Primary alcohol b) Secondary alcohol

c) Tertiary alcohol d) An aldehyde

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2018-19)

28/30

Name of Applicant: - Partek Mani Tripathi

Father's Name: - Rajesh Mani Tripathi

Branch (to be opted):- CS

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

1 If the amplitude of a complex number is $\pi/2$ then the number is

(a) purely imaginary (b) purely real (c) 0 (d) neither real nor imaginary

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3 In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

(a) 810 (b) 1440 (c) 2880 (d) 50400

4 Let R = {(3,1),(2,4),(4,2),(3,2),(1,3)} be a relation on the set A = { 4,3,2,1 }. The relation R is

(a) a function (b) transitive (c) not symmetric (d) reflexive.

5. In triangle ABC, we are given that 3 sin A + 4 cos B = 6 and 4 sin B + 3 cos A = 1. Then the measure of the angle is

(a) 30° (b) 150° (c) 60° (d) 75°

6. The number of values of x in the interval $[0, 3\pi]$ satisfying the equation $2\sin^2 x + 5\sin x - 3 = 0$ is

(a) 4 (b) 6 (c) 1 (d) 2

7. The line $y=mx+c$ intersects the circle $x^2+y^2=a^2$ at the most of _____ points.

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

8 The line $5x - 2y + 4k = 0$ is a tangent to $4x^2 - y^2 = 36$ then k is

(a) 4/9 (b) 2/3 (c) 9/4 (d) 81/16

9. The center of the circle $4x^2+4y^2-8x+12y-25=0$ is ?

(a) (1,2) (b) (-1,3/2) (c) (-3/2,1) (d) (1,-3/2)

10. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz–plane at the point (0, 17/2, -13/2). The

(a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

Registrar R.D. Engineering College Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

11.The pair of quantities having the same dimensions is

(a) Displacement, velocity (b) time, frequency (c) Wavelength, focal length (d) force, acceleration

12. Average distance of the Sun from the Earth

(a) light year (b) astronomical unit (c) fermi (d) parsec

13.The number of significant figures in the number 0.0028 is,

(a) 2 (b) 3 (c) 4 (d) 5

14.Which of the following is not the unit of time

(a) second (b) minute (c) month (d) light year

15.If $x = a + bt + ct^2$, where x is in metre and t in second, then what is the unit of 'c'?

(a) m/s (b) m/s^2 (c) kgm/s (d) m^2/s

16.The base quantity among the following is,

(a) Speed (b) area (c) length (d) weight

17. Dimensional analysis can be applied to

(a) to check the correctness of a physical equation. (b) to derive the relationship between different physical quantities.

(c) to convert a physical quantity from one system of units to other. (d) All of the above

18.Which of the following physical quantity has the dimensional formula $[M^1L^2T^{-3}]$

(a) work (b) power (c) work (d) impulse

19.The dimensions of universal gravitational constant is

(a) $[M^{-1}L^3T^{-2}]$ (b) $[M^1L^1T^{-2}]$ (c) $[M^{-1}L^2T^{-2}]$ (d) $[M^1L^{-1}T^{-1}]$

20.Which of the following is dimensionless

(a) force/acceleration

(b) velocity/acceleration

(c) volume/area

(d) energy/work

21.Scale may be formed inside the boiler due to decomposition of:

a) $Ca(HCO_3)_2$

b) $MgCO_3$

c) $MgCl_2$

d) $CaCl_2$

22. The chemical formula of zeolite is _____.
a) $FeSO_4.7H_2O$
b) $Al2(SO_4)_3.18\ H_2O$
c) $Na_2O.Al_2O_3.xSiO_2.yH_2O$
d) $Na_2Al_2O_3$

23.Which bond has the highest bond energy

O2 b) O_2^{+2} c) O_2^{2-} d) O^{2-}

24.When silicon (Si) is doped with phosphorous (P) we get

a) p-type semiconductor b) n-type semiconductor

c) Insulator d) Intrinsic semiconductor

25.A pi-bond is formed by sideway overlapping of

a) s-s orbitals b) p-p orbitals

c) s-p orbitals d) s-p-s orbitals

26. Temporary hardness of water can be removed by

a) Boiling

b) Filtration

c) Screening

d) Sedimentation

27. Suspension of milk is

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

a) $CaCl_2$ b) $Ca(OH)_2$ c) NaCl d) $MgCl_2$

28. Which of the following is not a Polyamide

a) Leather b) Natural rubber c) Wool d) Nylon-66

29. The catalyst used in the manufacture of polyethene by Ziegler method is

a) Lithium tetrachloride and triphenyl aluminium

b) Titanium tetrachloride and trimethyl aluminium

c) Titanium oxide

d) Titanium isoperoxide

30. When CH_3 MgI is made to react with acetone and the addition product is hydrloysed we get

a) Primary alcohol b) Secondary alcohol

c) Tertiary alcohol d) An aldehyde

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2018-19)

Name of Applicant: - ....Tushar Kansal

Father's Name: - .....Subhash

Branch (to be opted):- .....CS

28/30

R.D. Engineering College Head ASH

Note:- Attempt all Questions. Each question is of 1 mark.

1 If the amplitude of a complex number is $\pi/2$ then the number is

(a) purely imaginary (b) purely real (c) 0 (d) neither real nor imaginary

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3 In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

(a) 810 (b) 1440 (c) 2880 (d) 50400

4 Let R = {(3,1),(2,4),(4,2),(3,2),(1,3)} be a relation on the set A = { 4,3,2,1 }. The relation R is

(a) a function (b) transitive (c) not symmetric (d) reflexive.

5. In triangle ABC, we are given that 3 sin A + 4 cos B = 6 and 4 sin B + 3 cos A = 1. Then the measure of the angle is

(a) 30° (b) 150° (c) 60° (d) 75°

6. The number of values of x in the interval $[0, 3\pi]$ satisfying the equation $2\sin^2 x + 5\sin x - 3 = 0$ is

(a) 4 (b) 6 (c) 1 (d) 2

7. The line $y=mx+c$ intersects the circle $x^2+y^2=a^2$ at the most of _____ points.

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

8 The line $5x - 2y + 4k = 0$ is a tangent to $4x^2 - y^2 = 36$ then k is

(a) 4/9 (b) 2/3 (c) 9/4 (d) 81/16

9. The center of the circle $4x^2+4y^2-8x+12y-25=0$ is ?

(a) (1,2) (b) (-1,3/2) (c) (-3/2,1) (d) (1,-3/2)

10. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz–plane at the point (0, 17/2, -13/2). The

(a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

Registrar R.D. Engineering College Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

Dean Academics R.D. Engineering College Duhai, Ghaziabad

11.The pair of quantities having the same dimensions is

(a) Displacement, velocity (b) time, frequency (c) Wavelength, focal length (d) force, acceleration

12. Average distance of the Sun from the Earth

(a) light year (b) astronomical unit (c) fermi (d) parsec

13.The number of significant figures in the number 0.0028 is,

(a) 2 (b) 3 (c) 4 (d) 5

14.Which of the following is not the unit of time

(a) second (b) minute (c) month (d) light year

15.If $x = a + bt + ct^2$, where x is in metre and t in second, then what is the unit of 'c'?

(a) m/s (b) m/s^2 (c) kgm/s (d) m^2/s

16.The base quantity among the following is,

(a) Speed (b) area (c) length (d) weight

17. Dimensional analysis can be applied to

(a) to check the correctness of a physical equation. (b) to derive the relationship between different physical quantities.

(c) to convert a physical quantity from one system of units to other. (d) All of the above

18.Which of the following physical quantity has the dimensional formula $[M^1L^2T^{-3}]$

(a) work (b) power (c) work (d) impulse

19.The dimensions of universal gravitational constant is

(a) $[M^{-1}L^3T^{-2}]$ (b) $[M^1L^1T^{-2}]$ (c) $[M^{-1}L^2T^{-2}]$ (d) $[M^1L^{-1}T^{-1}]$

20.Which of the following is dimensionless

(a) force/acceleration

(b) velocity/acceleration

(c) volume/area

(d) energy/work

21.Scale may be formed inside the boiler due to decomposition of:

a) $Ca(HCO_3)_2$

b) $MgCO_3$

c) $MgCl_2$

d) $CaCl_2$

22. The chemical formula of zeolite is _____.
a) $FeSO_4.7H_2O$
b) $Al2(SO_4)_3.18\ H_2O$
c) $Na_2O.Al_2O_3.xSiO_2.yH_2O$
d) $Na_2Al_2O_3$

23.Which bond has the highest bond energy

O2 b) O_2^{+2} c) O_2^{2-} d) O^{2-}

24.When silicon (Si) is doped with phosphorous (P) we get

a) p-type semiconductor b) n-type semiconductor

c) Insulator d) Intrinsic semiconductor

25.A pi-bond is formed by sideway overlapping of

a) s-s orbitals b) p-p orbitals

c) s-p orbitals d) s-p-s orbitals

26. Temporary hardness of water can be removed by

a) Boiling

b) Filtration

c) Screening

d) Sedimentation

27. Suspension of milk is

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

a) $CaCl_2$ b) $Ca(OH)_2$ c) NaCl d) $MgCl_2$

28. Which of the following is not a Polyamide

a) Leather b) Natural rubber c) Wool d) Nylon-66

29. The catalyst used in the manufacture of polyethene by Ziegler method is

a) Lithium tetrachloride and triphenyl aluminium

b) Titanium tetrachloride and trimethyl aluminium

c) Titanium oxide

d) Titanium isoperoxide

30. When CH_3 MgI is made to react with acetone and the addition product is hydrloysed we get

a) Primary alcohol b) Secondary alcohol

c) Tertiary alcohol d) An aldehyde

Pushplata Scholarship Scheme

Qualifying Examination

Time: - 2 Hrs

Admission Year – (2018-19)

25/30

Name of Applicant: - ...Ujjawal

Father's Name: - ...Magendra Tyagi

Branch (to be opted):- ...C.S.....

Note:- Attempt all Questions. Each question is of 1 mark.

1 If the amplitude of a complex number is $\pi/2$ then the number is

(a) purely imaginary (b) purely real (c) 0 (d) neither real nor imaginary

2 What is the value of factorial Zero (0!)

(a) 10 (b) 0 (c) 1 (d) -1

3 In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

(a) 810 (b) 1440 (c) 2880 (d) 50400

4 Let R = {(3,1),(2,4),(4,2),(3,2),(1,3)} be a relation on the set A = { 4,3,2,1 }. The relation R is

(a) a function (b) transitive (c) not symmetric (d) reflexive.

5. In triangle ABC, we are given that 3 sin A + 4 cos B = 6 and 4 sin B + 3 cos A = 1. Then the measure of the angle is

(a) 30° (b) 150° (c) 60° (d) 75°

6. The number of values of x in the interval $[0, 3\pi]$ satisfying the equation $2\sin^2 x + 5\sin x - 3 = 0$ is

(a) 4 (b) 6 (c) 1 (d) 2

7. The line $y=mx+c$ intersects the circle $x^2+y^2=a^2$ at the most of _____ points.

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

8 The line $5x - 2y + 4k = 0$ is a tangent to $4x^2 - y^2 = 36$ then k is

(a) 4/9 (b) 2/3 (c) 9/4 (d) 81/16

9. The center of the circle $4x^2+4y^2-8x+12y-25=0$ is ?

(a) (1,2) (b) (-1,3/2) (c) (-3/2,1) (d) (1,-3/2)

10. The line passing through the points (5, 1, a) and (3, b, 1) crosses the yz−plane at the point (0, 17/2, -13/2). The

(a) a = 2, b = 8 (b) a = 4, b = 6 (c) a = 6, b = 4 (d) a = 8, b = 2

Registrar
R.D. Engineering College
Ghaziabad

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Head CSH

11.The pair of quantities having the same dimensions is

(a) Displacement, velocity (b) time, frequency (c) Wavelength, focal length (d) force, acceleration

12. Average distance of the Sun from the Earth

(a) light year (b) astronomical unit (c) fermi (d) parsec

13.The number of significant figures in the number 0.0028 is,

(a) 2 (b) 3 (c) 4 (d) 5

14.Which of the following is not the unit of time

(a) second (b) minute (c) month (d) light year

15.If $x = a + bt + ct^2$, where x is in metre and t in second, then what is the unit of 'c'?

(a) m/s (b) m/s^2 (c) kgm/s (d) m^2/s

16.The base quantity among the following is,

(a) Speed (b) area (c) length (d) weight

17. Dimensional analysis can be applied to

(a) to check the correctness of a physical equation. (b) to derive the relationship between different physical quantities.

(c) to convert a physical quantity from one system of units to other. (d) All of the above

18.Which of the following physical quantity has the dimensional formula $[M^1L^2T^{-3}]$

(a) work (b) power (c) work (d) impulse

19.The dimensions of universal gravitational constant is

(a) $[M^{-1}L^3T^{-2}]$ (b) $[M^1L^1T^{-2}]$ (c) $[M^{-1}L^2T^{-2}]$ (d) $[M^1L^{-1}T^{-1}]$

20.Which of the following is dimensionless

(a) force/acceleration

(b) velocity/acceleration

(c) volume/area

(d) energy/work

21.Scale may be formed inside the boiler due to decomposition of:

a) $Ca(HCO_3)_2$

b) $MgCO_3$

c) $MgCl_2$

d) $CaCl_2$

22. The chemical formula of zeolite is _____.
a) $FeSO_4.7H_2O$
b) $Al2(SO_4)_3.18\ H_2O$
c) $Na_2O.Al_2O_3.xSiO_2.yH_2O$
d) $Na_2Al_2O_3$

23.Which bond has the highest bond energy

O2 b) O_2^{+2} c) O_2^{2-} d) O^{2-}

24.When silicon (Si) is doped with phosphorous (P) we get

a) p-type semiconductor b) n-type semiconductor

c) Insulator d) Intrinsic semiconductor

25.A pi-bond is formed by sideway overlapping of

a) s-s orbitals b) p-p orbitals

c) s-p orbitals d) s-p-s orbitals

26. Temporary hardness of water can be removed by

a) Boiling

b) Filtration

c) Screening

d) Sedimentation

27. Suspension of milk is

a) $CaCl_2$ b) $Ca(OH)_2$ c) NaCl d) $MgCl_2$

28. Which of the following is not a Polyamide

a) Leather b) Natural rubber c) Wool d) Nylon-66

29. The catalyst used in the manufacture of polyethene by Ziegler method is

a) Lithium tetrachloride and triphenyl aluminium

b) Titanium tetrachloride and trimethyl aluminium

c) Titanium oxide

d) Titanium isoperoxide

30. When CH_3 MgI is made to react with acetone and the addition product is hydrloysed we get

a) Primary alcohol b) Secondary alcohol

c) Tertiary alcohol d) An aldehyde