

## R. D. Engineering College, Ghaziabad College Code-231

Approved by AICTE & Affiliated to Dr. APJ Abdul Kalam Technical University, Lucknow

# Pushplata Scholarship Scheme Policy(Year 2020-21)

Date: - 02-02-2020

On the Basis of Admission test conducted for the students taking admissions in B.Tech 1<sup>st</sup> Year of all the Courses, College Management has decided to provide Scholarship to these Students in the form of Fee Concession in their 1<sup>st</sup> Year Fees.

The Criteria for scholarship is as follows:-

#### Students Scoring

- 1. 80%- 90% Marks will get Concession of Rs 5,000.
- 2. 90% and above will get Concession Rs 15,000.

Director
R.D. Engineering College
Dr. Sanjeev Sharma

(Director)



- 1. All HODs
- 2. Chief Finance Officer
- 3. Accounts Department
- 4. IQAC

R.D. Engineering College

R.D. Engineering College

R.D. Engineering College

R.D. Duhai, Ghaziabad

Director College
Director College
R.D. Dunai, Ghazzasa

Direct of College



# R.D. ENGINEERING COLLEGE, GHAZIABAD PUSHPLATA SCHOLARSHIP SCHEME(DETAILS)

Session: 2020-21

ROLL NO	NAME	FATHER'S NAME	BRANCH	YEAR	TOTAL FEE (Rs)	CONCESSION
2002310100010	Aditya Kumar	Ram Avatar	Ω	157	60000	FROVIDED (RS)
2002310100014	Akash Tyagi	Ram Kumar Tyagi	Ω	151	60000	5000
2002311530024	Sankit Dagar	Nirdosh kumar Dagar	ß	1st	60000	5000
2002310100115	Vinay Tyagi	Pramod Tvagi	3		2000000	
200200000000000000000000000000000000000	villay i yaki	Pramod Tyagi	ಬ	1st	60000	5000
2002310100116	Vishal	Manoj Kumar	ß	1st	60000	5000
2002310100080	Nitish	Hukam Singh	S	1st	60000	5000
2002311530011	Karan Sharma	Mahesh Sharma	ß	1st	60000	5000
2002311830018	Pratham Kaushik	Sanjeev KaushiK	ß	1st	50000	15000
on is it					Total concession Provided :	₹50,000
<sup>909110</sup> C	_		ineer.			
	ROLL NO  2002310100010  2002310100014  2002311530024  2002310100116  2002310100080  2002311530038  2002311530038	Aditya Kumar  Akash Tyagi  Sankit Dagar  Vinay Tyagi  Vishal  Nitish  Karan Sharma  Pratham Kaushik	NAME  Ram Avatar  Aditya Kumar  Akash Tyagi  Sankit Dagar  Vinay Tyagi  Vishal  Nirdosh kumar Tyagi  Pramod Tyagi  Vishal  Manoj Kumar  Nitish  Hukam Singh  Karan Sharma  Mahesh Sharma  Pratham Kaushik  Sanjeev Kaushik	NAME  Ram Avatar  Aditya Kumar  Akash Tyagi  Sankit Dagar  Vinay Tyagi  Vishal  Nirdosh kumar Tyagi  Pramod Tyagi  Pramod Tyagi  Manoj Kumar  Mahesh Sharma  Karan Sharma  Mahesh Sharma  Pratham Kaushik  Sanjeev Kaushik	NAME FATHER'S NAME BRANCH YEAR  Aditya Kumar Ram Avatar CS 15T  Akash Tyagi Ram Kumar Tyagi CS 15T  Sankit Dagar Nirdosh kumar Dagar CS 15T  Vinay Tyagi Pramod Tyagi CS 15t  Vishal Manoj Kumar CS 1st  Karan Sharma Mahesh Sharma CS 1st  Pratham Kaushik Sanjeev KaushiK CS 1st	NAME  RATHER'S NAME  BRANCH  YEAR  Aditya Kumar  Ram Avatar  CS  15T  Sankit Dagar  Vinay Tyagi  Vinay Tyagi  Pratham Kaushik  Sanjeev Kaushik

Dean Academics
R.D. Engineering College
Duhai, Ghaziabad





#### **Qualifying Examination**

Time: - 2 Hrs

Admission Year – (2020-21)

Name of Applicant: - Adityer Kuman

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



#### 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

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

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)  $\theta$ ,  $\phi$  (b) r,  $\theta$  (c) r,  $\phi$  (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  $x/-2 + y/1 = 1$ 

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7. Distance between two parallel planes $2x + y + 2z = 8$ and $4x + 2y + 4z + 5 = 0$ is								
(a) 3/2	(b) 5/2	(0) 7/2	(d) 9/2					
8.A focus of an ellips semi-major axis is	se is at the origin. The	e directrix is the	e line $x = 4$ and the	eccentricity is 1/2. Then	n the length of the			
(a) 4/3	(b)-8/3		(c) 7/3	(d) 5/3				
9.A parabola has the	origin as its focus an	d the line $x = 2$	as the directrix. Th	en the vertex of the par	abola is at			
(a)(0,2)	(b) (0, 1)		(c)(t,0)	(d) (2, 0)				
10. A plane passes the	hrough $(1, -2, 1)$ and	d is perpendicul	ar to two planes 2x	-2y+z=0  and				
x - y + 2z = 4. The d	listance of the plane f	from the point (	1, 2, 2) is					
(a) 0 (b) 2	(c) Square Ro	ot of 3	2) 2 Square Root of	2				
11.If μs, μk and μr a	are coefficients of star	tic friction, kine	etic friction and roll	ing friction, then				
(a) $\mu$ s < $\mu$ k < $\mu$ r	(b) μk < μr < μs	(c) µr < µk <	(d) μr =	μk = μs				
12.Impulse equals			ı					
(a) rate of change of	momentum	(b) change in m	omentum		- 49 F			
(c) momentum multi	iplied by time (	(d) rate of chang	ge 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 u	niform motion					
(c) May be in unifor	mly accelerated moti	on (d) Both	a & b					
14.The coefficient o	f static friction between	een two surfaces	s depends upon					
(a) the normal reacti	ion (	(b) the shape of	the surface in cont	aet				
(c) the area of conta	ct (	d) None of the	these	·				
15. Which of the following	lowing statements ab	out friction is tr	rue?	ar and a second				
(a) Friction can be r	reduced to zero	(b)	Frictional force car	nnot accelerate a body				
(c) Frictional force	is proportional to the	area of contact	between the two su	urfaces				
(d) Kinetic friction	is always greater than	n rolling friction	1					
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	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) Etastic 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 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 reactants and temperature c) Rate constant and temperature
8	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
a ´	decrease 28. In 30 minutes, a first-order reaction is 50% complete. Calculate the amount of time it took to complete 87.5 percentages.
d-	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. d) Desorption
2	a) Absorption hyadsorption application
2	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
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	K. V

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

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

d) Blood



#### Qualifying Examination

Admission Year – (2020-21)

Name of Applicant: - Sankit dagar

Father's Name: - Wydash Kumay dagar

Branch (to be opted):-



What Ghaziabad

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

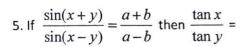
1 Let two numbers have arithmetic mean 9 and geometric mean 4. Then these numbers are the roots of the quadratic equation.

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

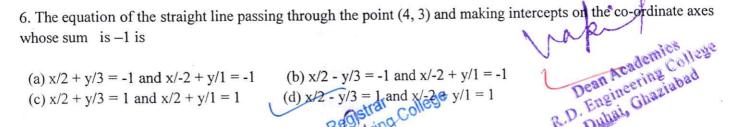
- 2 What is the value of factorial Zero (9!)
- (a) 10
- (b) 0
- (d) -1
- 3. If  $\sin \theta_1 + \sin \theta_2 + \sin \theta_3 = 3$  then  $\cos \theta_1 + \cos \theta_2 + \cos \theta_3 =$
- (a) 3



- (a)  $\theta$ ,  $\phi$  (b) r,  $\theta$  (c) r,  $\phi$



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



- (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

(a) 3/2 (b) 5/2	(c) 7/2 (d) 9	9/2
8.A focus of an ellipse is at the origin. I semi-major axis is	The directrix is the line $x = 4$	and the eccentricity is 1/2. Then the length of the
(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 direc	ctrix. 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 $(1, -2, 1)$ a	and is perpendicular to two pl	lanes $2x - 2y + z = 0$ and
x-y+2z=4. The distance of the plane	e from the point (1, 2, 2) is	
(a) 0 (b) 2 (c) Square F	Root of 3 (d) 2 Square	Root of 2
11.If $\mu s$ , $\mu k$ and $\mu r$ are coefficients of s	tatic friction, kinetic friction	and rolling friction, then
(a) $\mu s < \mu k < \mu r$ (b) $\mu k < \mu r < \mu s$	(e) μr < μk < μs	(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 fou	nd to be zero.' It can be infer	rred that the object
(a) May be at rest	(b) May be in uniform moti	tion
(c) May be in uniformly accelerated mo	otion (d) Both a & b	
14. The coefficient of static friction bet	ween two surfaces depends up	upon
(a) the normal reaction	(b) the shape of the surface	e in contact
(c) the area of contact	(d) None of the these	
15. Which of the following statements	about friction is true?	1 194
(a) Friction can be reduced to zero	(b) Frictional fo	force cannot accelerate a body
(c) Frictional force is proportional to the	he area of contact between the	ne two surfaces
(d) Kinetic friction is always greater th	nan rolling friction	
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	16. No work is done if (a) displacement is zero (b) force is zero
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	17. Which is the type of collision in which both the linear momentum and the kinetic energy of the system remain conserved?
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***	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 c) 90 minutes c) Sorption d) Desorption c) Sorption c) Sorption d) Desorption 28. Which of the following assertions about the extent of physisorption is correct? b) Decreases with increase in surface area
	Dean Academics lege  Director  R.D. Engineering College  R.D. Engineering Chaziabad  R.D. Duhai, Ghaziabad

c) Decreases with increase in the strength of Van der Waals forces 29. Which of the following is not a lyophobic colloidal example?

d) Blood

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

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



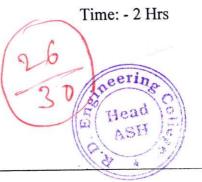
#### Qualifying Examination

Admission Year – (2020-21)

Name of Applicant: - Akash Tyagi

Father's Name: - Ram Kumar Tyazi

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.

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$$x^2 + 18x + 16 = 0$$
 (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

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

- (a) 3

- (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

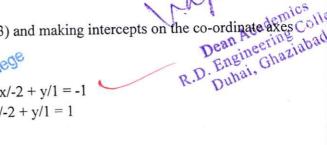
- (a)  $\theta$ ,  $\phi$  (b) r,  $\theta$
- (c)  $r, \phi$  (d) r

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 Coll

whose sum is -1 is

- (a) x/2 + y/3 = -1 and x/-2 + y/1 = -1
- $\frac{1}{x^2}$  and  $\frac{x}{-2} + \frac{y}{1} = -1$
- (c) x/2 + y/3 = 1 and x/2 + y/1 = 1
- $\frac{1}{x^2}$  and  $\frac{1}{x^2} + \frac{1}{x^2} = 1$



(a) 3/2	(b) 5/2	(c) 7/2	(d) 9/2		
8.A focus of an elli semi-major axis is		he directrix is the	e line $x = 4$ and th	ne eccentricity is 1/2. Th	en the length of the
1					
(a) 4/3	(b) 8/3		(c) 7/3	(d) 5/3	
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x - y + 2z = 4. The	e distance of the plan	e from the point (	(1, 2, 2) is		
(a) 0 (b) 2	(c) Square F	Root of 3	d) 2 Square Root	of 2	
11.If μs, μk and μ	r are coefficients of s	tatic friction, kin	etic friction and re	olling friction, then	OF SHIP
(a) μs < μk < μr	(b) $\mu k < \mu r < \mu s$	(c) µr < µk	< μs (d) μr	$= \mu k = \mu s$	
12.Impulse equals					
(a) rate of change	of momentum	(b) change in n	nomentum		'a are aba
(c) momentum mu	altiplied by time	(d) rate of chan	ge of force		
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(a) the normal rea	ction	(b) the shape of	f the surface in co	ntact	?
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(9.) (9.)	· ·				

16. No work is done if (a) displacement is zero (b) force is zero
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17. Which is the type of collision in which both the linear momentum and the kinetic energy of the system remain conserved?
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Director College  R.D. Engineering abad

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

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

a) Different diameters of colloidal gold particles

c) Different concentrations of gold particles

b) Variable valency of gold

d) Impurities produced by different methods

d) Blood



#### Qualifying Examination

Time: - 2 Hrs

Admission Year - (2020-21)

Name of Applicant: - Pratham taushit

Father's Name: - Santeer Kaushik

Branch (to be opted):- ...



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

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

- $(a)\theta$ ,  $\phi$  (b) r,  $\theta$
- (c) r,  $\phi$

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(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 = -1Duhai. Ghaziabad

- (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

7.Distance betwe	en 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	1/2			
8.A focus of an e semi-major axis	llipse is at the origin. T	The directrix is t	he line $x = 4$	and the eccentr	ricity is 1/2. The	en the leng	th of the
(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 direc	trix. Then the	vertex of the pa	rabola is a	ıt
(a)(0,2)	(b) (0, 1)		(c)(1,0)		(d) (2, 0)		
10. A plane pass	es through $(1, -2, 1)$	and is perpendic	ular to two pl	anes 2x - 2y +	z = 0 and		
x - y + 2z = 4. The	he distance of the plan	e from the point	(1, 2, 2) is				
(a) 0 (b) 2	(c) Square I	Root of 3	(d) 2 Square	Root of 2	* •		
11.If μs, μk and	μr are coefficients of s	static friction, ki	netic friction	and rolling frie	ction, then		
(a) $\mu$ s < $\mu$ k < $\mu$ r	(b) $\mu k < \mu r < \mu s$	(c) µr < µl	c < μs (	(d) $\mu r = \mu k = \mu$	s		
12.Impulse equal	S						
(a) rate of change	e of momentum	(b) change in	momentum				17
(c) momentum m	nultiplied by time	(d) rate of cha	nge of force				
13. Net force act	ing on an object is fou	and to be zero.'!	t can be infer	red that the ob	pject		
(a) May be at res	t	(b) May be in	uniform mot	ion			
(c) May be in un	iformly accelerated m	otion (d) Bot	ha&b				
14.The coefficie	nt of static friction bet	ween two surfac	es depends u	pon			
(a) the normal re	action	(b) the shape of	of the surface	in contact	1		
(c) the area of co	ontact	(d) None of the	e these				
15. Which of the	following statements	about friction is	true?			11.5	
(a) Friction can	be reduced to zero	o (t	) Frictional f	orce cannot ac	celerate a body	2111	
(c) Frictional for	rce is proportional to t	he area of conta	ct between th	e two surfaces	3	\.	
(d) Kinetic fricti	on is always greater the	nan rolling fricti	on				

(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 remarkable.
(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 utiliz
(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) Displ
21. As an electroplated protective covering, what metal is used?  a) Plutonium  c) Nickel  d) Iron  22. Which of the following statements concerning transuranium elements is incorrect?  a) Atomic number > 92  e) 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  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 halfiffe at a first-order reaction?  a) It increases  b) It decreases  d) Both increases as we
decrease  28. In 30 minutes, a first-order reaction is \$0% complete. Calculate the amount of time it took to complete 8 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 particle of the following assertions about the extent of physisorption is correct?  a) Increases with increase in temperature  b) Decreases with increase in surface of the particle of the following assertions about the extent of physisorption is correct?  b) Decreases with increase in surface of the particle of
R.D. Engineering College R.D. Engineering Coll

c) Decreases with increase in the strength of Van der Waals forces
30 29. Which of the following is not a lyophobic colloidal example?

d) Blood

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

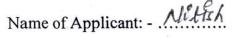
c) Different concentrations of gold particles

d) Impurities produced by different methods



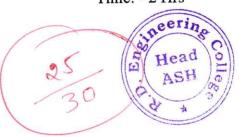
#### **Qualifying Examination**

Admission Year - (2020-21)



Father's Name: - Hukam Singh

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



#### 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

- 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

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

- $(a)\theta, \phi$  (b)r,  $\theta$
- $(c)r, \phi$

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 (e)  $\frac{a}{b}$

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  $x/-2 + y/1 = -1$ 

(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  $x/-2 + y/1 = 1$ 

7. Distance between two parallel pla	anes $2x + y + 2z =$	8 and $4x + 2y$	+4z + 5 = 0 is		F -	
(a) 3/2 (b) 5/2	(c) 7/2	(d)	9/2			
8.A focus of an ellipse is at the orig	gin. The directrix i	s the line $x = 2$	and the eccentri	icity is 1/2. Then	the length	of the
semi-major axis is				* **		
(a) 4/3 (b) 8/3	3	(c) 7/3		(d) 5/3		
9.A parabola has the origin as its fo	ocus and the line x	= 2 as the dire	ectrix. Then the v	ertex of the para	bola is at	
(a) (0, 2) (b) (0,	, 1)	(e) (1, (	9	(d) (2, 0)		
10. A plane passes through $(1, -2)$	, 1) and is perpend	licular to two	planes 2x - 2y +	z = 0 and		
x-y+2z=4. The distance of the	plane from the po	int (1, 2, 2) is	^			
(a) 0 (b) 2 (c) Squ	are Root of 3	(d) 2 Square	e Root of 2	- e		
11.If μs, μk and μr are coefficients					riminera (	
(a) $\mu s < \mu k < \mu r$ (b) $\mu k < \mu r <$	μs (c) μr <	μk < μs	(d) $\mu r = \mu k = \mu s$			
12.Impulse equals						
(a) rate of change of momentum	(b) change i	in momentum				
(c) momentum multiplied by time	(d) rate of c	hange of force		nshalisa s		
13. Net force acting on an object i	s found to be zero.	'It can be info	erred that the obj	ect		
(a) May be at rest	(b) May be	in uniform mo	otion	× 1 27 = 2		
(c) May be in uniformly accelerate	ed motion (d) B	8oth a & b				
14. The coefficient of static friction	n between two sur	faces depends	upon			
(a) the normal reaction	(b) the shap	e of the surfac	e in contact			
(c) the area of contact	(d) None of	the these				
15. Which of the following statement	ents about friction	is true?				
(a) Friction can be reduced to zero	)	(b) Frictional	force cannot acc	elerate a body		
(c) Frictional force is proportional	I to the area of con	ntact between t	he two surfaces			- V
(d) Kinetic friction is always grea	ter than rolling fri	ction				ž.

	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
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*	decrease 28. In 30 minutes, a first-order reaction is 50% complete. Calculate the amount of time it took to complete 87.5 per of the reaction.  a) 30 minutes b) 60 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 c) Sorption is correct? b) Decreases with increase in temperature  b) Decreases with increase in temperature  Director College  R.D. Engineering College  R.D. Engineering College  R.D. Duhai, Ghaziabad  R.D. Duhai, Ghaziabad
	R.D. Engineering College  R.D. Engineering Chaziahad  R.D. Engineering Chaziahad  R.D. Duhai, Ghaziahad  R.D. Duhai.

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?

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

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

a) Different diameters of colloidal gold particles

c) Different concentrations of gold particles

b) Variable valency of gold

d) Impurities produced by different methods

d) Blood



#### Qualifying Examination

Time: - 2 Hrs

Admission Year – (2020-21)

Name of Applicant: - Vishal

Father's Name: - Manny Kumau

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

- 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
- 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)  $\theta$ ,  $\phi$  (b) r,  $\theta$
- (c) r, \( \phi \) (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) 
$$x/2 + y/3 = -1$$
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(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  $x/-2 + y/1 = 1$ 

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(a) 3/2	(b) 5/2	(c) 7/2	(d) 9/2		
8.A focus of an elli semi-major axis is		The directrix is the	line $x = 4$ and the $6$	eccentricity is 1/2. Then	the length of the
(a) 4/3	(b) 8/3	16/10/27 == 3 10/3, 31 -	(c) 7/3	(d) 5/3	
9.A parabola has th	ne origin as its focus	and the line $x = 2$ a	s the directrix. The	en the vertex of the para	ibola is at
(a)(0,2)	(b) (0, 1)		(c)(1,0)	(d) (2, 0)	
10. A plane passes	s through (1, -2, 1) a	_			
x - y + 2z = 4. The	e distance of the plane	e from the point (1,	2, 2) is		
(a) 0 (b) 2	(c) Square F	Root of 3 (d)	2 Square Root of	2	
11.If μs, μk and μ	r are coefficients of s	tatic friction, kineti	c friction and roll	ing friction, then	
(a) $\mu$ s < $\mu$ k < $\mu$ r	(b) $\mu k < \mu r < \mu s$	(c) μr < μk <	μs (d) μr = 1	uk = μs	
12.Impulse equals					
(a) rate of change of	of momentum	(b) change in mor	mentum		
(c) momentum mu	ltiplied by time	(d) rate of change	of force		alar Sa
13.'Net force actin	ng on an object is fou	nd to be zero.' It ca	an be inferred that	the object	
(a) May be at rest		(b) May be in uni	form motion		
(c) May be in unif	formly accelerated mo	otion (d) Both a	&b		
14.The coefficient	of static friction bety	ween two surfaces	depends upon		
(a) the normal read	ction	(b) the shape of the	ne surface in conta	act	
(c) the area of con	tact	(d) None of the th	ese		
15. Which of the fo	ollowing statements a	about friction is tru	e?	,×, *11,	
(a) Friction can be	reduced to zero	(b) F	rictional force can	not accelerate a body	
(c) Frictional force	e is proportional to th	ne area of contact b	etween the two su	rfaces	
(d) Kinetic friction	n is always greater th	an rolling friction			-
	2.5				

16. No work is done if (a) displacement is zero (b) force is zero
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Decreases with increase in the strength of Van der Waals forces d) Decreases with increase in temperature

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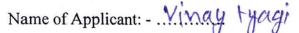
d) Blood



#### **Qualifying Examination**

Time: - 2 Hrs

Admission Year - (2020-21)



Father's Name: - .... Researched tyagi

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



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

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- 2 What is the value of factorial Zero (0!)
- (a) 10

- 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

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)  $\theta$ ,  $\phi$  (b) r,  $\theta$  (c) r,  $\phi$  (d) r

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

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

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	(a) 3/2	(b) 5/2	(c) 7/2	(d) 9/2			
	8.A focus of an ellips semi-major axis is	se is at the origin. Th			ccentricity is 1/2. Then	the length	of the
	(a) 4/3	(b) 8/3	M 10 m	(c) 7/3	(d) 5/3		
_	9.A parabola has the	origin as its focus ar	and the line $x = 2$	as the directrix. The	n the vertex of the para	abola is at	
1	(a) (0, 2)	(b) (0, 1)		(c) (1, 0)	(d) (2, 0)		
	10. A plane passes t	hrough $(1, -2, 1)$ an	d is perpendicula	ar to two planes 2x -	-2y+z=0  and		
	x - y + 2z = 4. The d	listance of the plane	from the point (	1, 2, 2) is			
	(a) 0 (b) 2	(c) Square Ro	oot of 3	2) 2 Square Root of 2	2 1 8 2		
	11.If μs, μk and μr a	are coefficients of sta	atic friction, kine	tic friction and rolling	ng friction, then		
	(a) μs < μk < μr	(b) $\mu k < \mu r < \mu s$	(c) µr < µk <	$< \mu s$ (d) $\mu r = \mu s$	$k = \mu s$		
	12.Impulse equals		- ly6-				
	(a) rate of change of	momentum	(b) change in mo	omentum			
	(c) momentum multi	iplied by time	(d) rate of chang	ge of force	94 197		
	13.'Net force acting	on an object is foun	d to be zero.' It o	can be inferred that t	he object		
	(a) May be at rest		(b) May be in ur	niform motion	tų e		
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	(a) the normal reacti	ion	(b) the shape of	the surface in contac	et		0
	(c) the area of conta	nct	(d) None of the t	hese			
	15. Which of the fol	lowing statements al	oout friction is tr	ue?	1 76		
	(a) Friction can be r	reduced to zero	(b)	Frictional force canr	not accelerate a body	i at e	
	(c) Frictional force	is proportional to the	e area of contact	between the two sur	rfaces	# 5n	
	(d) Kinetic friction	is always greater tha	n rolling friction	1			
1							

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)	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?					
1	a) Alkaline test b) Acidic test c) Chromyl chloride test 25. Plotting a graph between temperature and reaction rates can reveal the temperature dependence of reaction rates.				
1	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 perconstruction.  a) 30 minutes  b) 60 minutes  c) 90 minutes  d) 120 minutes  When the molecules of a substance are kept at the surface of a solid of a liquid, what is the name of the process a) Absorption  b) Adsorption  c) Sorption  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				
	Director College  Director College  R.D. Engineering College  R.D. Engineering Chaziabad  R.D. Duhai, Ghaziabad  R.D. Duhai, Ghaziabad				

c) Decreases with increase in the strength of Van der Waals forces 29. Which of the following is not a lyophobic colloidal example?

d) Blood

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

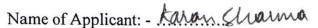
d) Impurities produced by different methods



#### **Qualifying Examination**

Time: - 2 Hrs

Admission Year – (2020-21)



Father's Name: - Mahesh Shanna

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



#### 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

- 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
- 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
- $(a)\theta$ ,  $\phi$  (b)r,  $\theta$  (c)r,  $\phi$

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



(a) $3/2$	(b) 5/2	(e) 7/2	(d) 9/2			
8.A focus of an e semi-major axis	ellipse is at the origin. T	he directrix is th	e line $x = 4$ and	1 the eccentricity is	1/2. Then the le	ength of the
(a) 4/3	(b) 8/3		(c) 7/3	(d) 5	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						is at
(a)(0,2)	(b) (0, 1)		(0)(1,0)	(d)	(2,0)	
10. A plane pass	ses through $(1, -2, 1)$ a	nd is perpendicu	lar to two plan	es 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 F	Root of 3	d) 2 Square Ro	oot of 2	es ar sy	
11.If μs, μk and	l μr are coefficients of s	tatic friction, kin	etic friction an	d rolling friction, t	hen	
(a) $\mu s < \mu k < \mu r$	(b) $\mu k < \mu r < \mu s$	(c) pr < µk	< μs (d)	$\mu r = \mu k = \mu s$		
12.Impulse equa	als					
(a) fate of chang	ge of momentum	(b) change in n	nomentum			
(c) momentum r	multiplied by time	(d) rate of chan	ge of force			
13. Net force ac	ting on an object is fou	nd to be zero.' It	can be inferre	d that the object	l S	
(a) May be at re	est	(b) May be in u	niform motion	1.		
(c) May be in ur	niformly accelerated mo	otion (d) Both	a & b			
14.The coefficie	ent of static friction bet	ween two surface	es depends upo	n		
(a) the normal re	eaction	(b) the shape of	f the surface in	contact		
(c) the area of c	ontact	(d) None of the	these			
15. Which of the	e following statements	about friction is t	rue?		in the second	
(a) Friction can	be reduced to zero	(b)	Frictional for	ce cannot accelerat	e a body	P W 11
(c) Frictional force is proportional to the area of contact between the two surfaces						
(d) Kinetic friction is always greater than rolling friction					700	
	2000	00				

	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
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	R.D. Suhai.

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?

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