و نصف 1431/1/14هـ	ب الثاني/ زمن الاختبار <mark>ساعة</mark>	الدوري	لك عبد العزيز / كلية العلوم/ قسم الفيزياء	(A) جامعة الم
1- In the projectile moti (a)Zero	on, the y-component of the (b) constant	velocity at the maximu (c) the maximum va	÷	
2- In the projectile moti	on, the x-component of the	velocity is:		
(a) $v_0 \sin \theta$	(b) $-v_0 \sin \theta$	(c) $v_0 \cos \theta$	(d) $- v_0 \tan \theta$	
$(a)90^{0}$	ion, the angle for the maximum (b) 75 ⁰	(c) 180°	(d) 45^{0}	
	on, the maximum range is:			
(a) $\frac{v_0^2}{g}(\cos 2\theta)$	(b) $\frac{v_0^2}{g}$ (c) $\frac{v_0}{g}$	<u>o</u> (d	$\frac{v_0^2}{g}(\cos\theta)^2$	
5-A body move with a v	velocity $\vec{v} = 2\hat{i} - 3\hat{j} m/$'s and acceleration \vec{a}	$= 2\hat{i} + \hat{j} m/s^2$. The velocity after 2s (i	n SI unit) is:
(a) $\vec{v} = 6\hat{i} - \hat{j}$	(b) $\vec{v} = 6\hat{i} + \hat{j}$	(c) $\vec{v} = -6\hat{i} - \hat{j}$	(d) $\vec{v} = +6\hat{i} + \hat{j}$	
6-A ball is thrown with (a)30 m/s	a velocity of 15 m/s at an a (b) 7.5 m/s	ngle of 30 ⁰ . The y-com (c)15 m/s	ponent of the velocity is : (d) 13m/s	
7- In question (6), the x- (a)30 m/s	-component of the velocity (b) 7.5 m/s	is: (c)15 m/s	(d) 13m/s	
8- In question (6), the m (a)2870m	naximum height is : (b)287m	(c)2.87 m	(d) 28.7 m	
9- In question (6), the ra (a) 19.88 m	nge is: (b)198.8 m	(c) 1988 m	(d) 1.988 m	
10- In question (6), the (a)0.015 s	time of flight is: (b)0.15 s	(c) 15 s	(d) 1.5 s	
11- A boy hold a rope o 3 m/s. The acceleration (a) 0.03 m/s^2		and the other end a sto (c)3.0 m/s ²	ne, he rotate the stone in a horizontal circl (d) 300 m/s ²	e with speed of
12- A man stand on the (a) 7.84 N	ground level, if his mass is (b)784 N	80 kg, his weight is: (c) 78.4 N	(d)7840 N Θ=	300
13- A body of mass m, i The value of mass is:	is hung by the ropes, at equ	uilibrium, as shown in t	he figure. $T_i=16.45 \text{ N}$	T ₂ =19 N
(a) 950 kg	(b) 0.97 kg	(c) 9.5 kg	(d) 95 kg	m = ?
14- The force needed to (a) 98 N	keep the mass (m=20 kg) a (b)980 N	at rest , as shown in the (c)9.8 N	figure, the force is: (d)0.98 N	
1. T			$\theta = 0$	300
15- In question (14), the (a) 1.69 N	e normal force on the body (b) 10.0 N	is: (c) 16.97 N	(d) 169.7 N	
	=20kg and $m_2 = 10$ kg. The	force acting to accelerate	the two	
bodies by 2 m/s ² , the for (a) 60 N	rce is: (b) 6.0 N	(c)600 N (d)0.06 N	m ₂
17- A racing car of mass (a) 225 N	s 600 kg moves is decelerat (b)0.225 N		e brakes, the frictional force is:) 2.25 N	

	e rope was 10 N. Th 1.28 kg	e value of m ₂ is (c)8.0 kg		I	
19- In question (18), the normal $(a) 0.40$ N			(L) (L)) NI	
(a) 0.49 N (b)	490 N	(c) 4.9 N	(d) 49	9 N	
20- A block of mass 10 kg, wa a constant speed (as shown in t (a)25.98 N (b 21- A space satellite moves in	the figure) on a roug 0)259.8 N	th surface. The contract (c) 2.598 N	friction force is: (d) 0.	2598N	
of the satellite is: (the earth ra		,,			
	m/s^2	(c)9.74 m/s ²	² (d)5.4	5 m/s^2	
)=	(1),	(1)11		
22- In the figure shown two bo If $m_1=3$ kg and $m_2=1.5$ kg. the (a) 2.7 m/s ² (b)				27 m/s ²	
23- Two boxes m_1 =10 kg and m_1 (a)25 N (b)	m ₂ =15 kg, the gravit 0)245 N	tational force or (c)2450 N	n m ₂ is (d)5 l	N	
24- In question 23, the gravitat (a)0.98 N (b)	ional force on m ₁ is 9.8 N	: (c)98 0 N	(d)98	N	m ₂
25- A man of mass 80 kg stan	d on elevator, if the	elevator is goi	ng upward with acce	eleration of 2 m/s ² , th	e apparent weight of the
man is:		U			
(a)944 N (b)8	80 N	(c)44 N	(d)9	9.8 N	
26- In question (25), if the ele(a) 80 N(b)727- A box stands on rough inc	7.84 N	(c)784 N	(d))	78.4 N	
(a) 1.00 (b)	<u>^</u>	(c) Zero	(c) 0.5		5.
28- A box stands on rough incl (a) mg sin θ (b)	line plane of θ , the b mg tan θ	ox is moving w (c) mg cos θ		•	e is:
29- A box of mass 5 kg is slid	ing down with a cor	nstant velocity	on a rough incline su	rface at an angle 20°	with the horizontal. The
kinetic friction coefficient is: (a) 0.1 (b) 2	2.6	(c)0.36	(d)	1.00	
30- A car was going in a circul(a) 0.816(b) 0		s of 50m with c (c) 1.00	•	5 m/s, the static fricti d) 1.27	on coefficient is:
Defemine	11:5 1	Initial	51 57.1	Littin ~	اصطدم
Referring	العودة الي قذف	Initial altitude	ابتدائي ارتفاع عن سطح الارض	Hitting	اصطدم القدمة العددية
Thrown			<u> </u>	Magnitude	
Vertically	عامودي	Elevator	مصعد	Prevent	يمنع
Hangs	معلق	Circular	دائري	Apparent weigh	
Horizontal	أفقي	Rough	خشن	Gravitational	الجاذبية الارضية
Radius	نصف قطر	Coefficient	معامل	Frictional	الاحتكاك
Sliding	ينزلق	Static	السكوني	Floor	الارض
Upward	<u>پرس</u> إلى اعلى	Kinetic	الحركي	Stand	بقف
Opward	<i>۽ جي " -</i> ي	initite	، ـــر ــي	Stand	

ةو نصف 1431/1/14هـ	ي الثاني/ زمن الاختبار ساعة	اء الدور	ملك عبد العزيز / كلية العلوم/ قسم الفيزي	A)جامعة ال
1- In the projectile motio (a)Zero	n, the y-component of the v (b) constant	velocity at the maximum he (c) the maximum value	eight is: (d) Negative	
2- In the projectile motio (a) $v_0 \sin \theta$	n, the x-component of the v (b) $-v_0 \sin \theta$	(c) $v_0 \cos \theta$	(d) $-v_0 \tan \theta$	
$(a)90^{0}$	on, the angle for the maximum $(b) 75^{\circ}$	um range is: (c) 180 ⁰	(d) 45°	
	n, the maximum range is: (b) $\frac{v_0^2}{g}$ (c) $\frac{v_0}{g}$	(d) $\frac{v_0^2}{g}$	$-(\cos\theta)^2$	
			$\hat{j} + \hat{j} = m/s^2$. The velocity after 2s (d) $\vec{v} = +6\hat{i} + \hat{j}$	(in SI unit) is:
6-A ball is thrown with a (a)30 m/s	velocity of 15 m/s at an an (b) 7.5 m/s	gle of 30 ⁰ . The y-compone (c)15 m/s	ent of the velocity is : (d) 13m/s	
7- In question (6), the x-c (a)30 m/s	component of the velocity is (b) 7.5 m/s	s: (c)15 m/s	(d) 13m/s	
8- In question (6), the ma (a)2870m	aximum height is : (b)287m	(c)2.87 m	(d) 28.7 m	
9- In question (6), the rar (a) 19.88 m	nge is: (b)198.8 m	(c) 1988 m	(d) 1.988 m	
10- In question (6), the ti (a)0.015 s	me of flight is: (b)0.15 s	(c) 15 s	(d) 1.5 s	
11- A boy hold a rope of 3 m/s. The acceleration o (a) 0.03 m/s^2		and the other end a stone, l (c)3.0 m/s ²	ne rotate the stone in a horizontal circ (d) 300 m/s ²	cle with speed of
12- A man stand on the g (a) 7.84 N	round level, if his mass is 8 (b)784 N	80 kg, his weight is: (c) 78.4 N	(d)7840 N 0	= 30°
13- A body of mass m, is The value of mass is:	s hung by the ropes, at equi	librium, as shown in the fi	gure. $T_i = 16.45 \text{ N}$	T ₂ =19 N
(a) 950 kg	(b) 0.97 kg	(c) 9.5 kg	(d) 95 kg	m = ?
14- The force needed to l (a) 98 N	keep the mass (m=20 kg) at (b)980 N	rest, as shown in the figu (c)9.8 N	(d)0.98 N	- 30 ⁰
15- In question (14), the (a) 1.69 N	normal force on the body is (b) 10.0 N	: (c) 16.97 N	(d) 169.7 N	
16- From the figure $m_1=2$ bodies by 2 m/s ² , the force (a) 60 N	20kg and m ₂ =10 kg. The fo ce is: (b) 6.0 N	(c)600 N (d)0.00		1 m ₂
17- A racing car of mass (a) 225 N	600 kg moves is decelerate (b)0.225 N	d by 4.5 m/s ² using the bra (c)2700 N (d) 2.2		

					
18- In the figure shown, i of 2 m/s ² and the tension (a)2.5 kg	in the rope was 10 N. Th (b)1.28 kg	e value of m ₂ is: (c)8.0 kg	(d)50 kg	[m ₁ T T m ₂
19- In question (18), the $(a) 0.40$ N) NI	
(a) 0.49 N	(b) 490 N	(c) 4.9 N	(d) 49	V N	
20- A block of mass 10 k a constant speed (as show (a) 25.98 N			ction force is:	2598N	F θ= <u>30</u> ⁰
21- A space satellite mov		und the earth, at a	altitude of 530 km	and with speed of 8.2	km/s. The acceleration
of the satellite is: (the early $(x) = 0.074 \text{ m/s}^2$		$(-)0.74 = 1-^{2}$	(1) 5 5	· · · · / -2	
(a) 0.974 m/s^2	(b)3 m/s ²	(c)9.74 m/s ²	(d)5.5	o m/s²	•
22- In the figure shown tw If $m_1=3$ kg and $m_2=1.5$ k (a) 2.7 m/s ²				27 m/s ²	
23- In the figure, two box (a)25 N	es m ₁ =10 kg and m ₂ =15 (b)245 N	kg, the gravitation (c)2450 N	nal force on m ₂ is (d)5 N		n ₁
24- In question 23, the gr (a)0.98 N	(b)9.8 N	(c)98 0 N	(d)98	N	m ₂
25- A man of mass 80 kg	stand on elevator, if the	elevator is going	g upward with acce	leration of 2 m/s ² , the	apparent weight of the
man is: (a)944 N	(b)80 N	(c)44 N	(d)9	9.8 N	
26- In question (25), if th (a) 80 N	(b)7.84 N	(c)784 N	(d)7	/8.4 N	
27- A box stands on roug (a) 1.00	(b) 5.8 (b) 5.8	(c) Zero) 0.58	:
28- A box stands on roug	h incline plane of θ , the b	ox is moving wit	h a constant velocit	v. the frictional force	is:
(a) mg sin θ	(b) mg tan θ	(c) mg cos θ		mg	
29- A box of mass 5 kg i		nstant velocity on	a rough incline su	rface at an angle 20°	with the horizontal. The
kinetic friction coefficien		(a)0.26	-	-	
kinetic friction coefficien (a) 0.1	t is: (b) 2.6	(c)0.36	(d)	1.00	
kinetic friction coefficien	(b) 2.6	. ,	nstant velocity of 2.	1.00	on coefficient is:
kinetic friction coefficien (a) 0.1 30- A car was going in a (a) 0.816	(b) 2.6 circular road with a radiu (b) 1.27	s of 50m with cor (c) 1.00	nstant velocity of 2.	1.00 5 m/s, the static frictio (d) 1.27	
kinetic friction coefficien (a) 0.1 30- A car was going in a (a) 0.816 Referring	(b) 2.6 circular road with a radiu (b) 1.27 العودة الى	s of 50m with con (c) 1.00	nstant velocity of 2. ابتدائی	1.00 5 m/s, the static frictio (d) 1.27 Hitting	اصطدم
kinetic friction coefficien (a) 0.1 30- A car was going in a (a) 0.816 Referring Thrown	(b) 2.6 circular road with a radiu (b) 1.27 العودة الى قذف	s of 50m with cor (c) 1.00 Initial altitude	nstant velocity of 2. ابتدائي إرتفاع عن سطح الارو	1.00 5 m/s, the static frictio (d) 1.27 Hitting Magnitude	اصطدم القيمة العددية
kinetic friction coefficien (a) 0.1 30- A car was going in a (a) 0.816 Referring Thrown Vertically	(b) 2.6 circular road with a radiu (b) 1.27 العودة الى قذف عامودي	s of 50m with con (c) 1.00 Initial altitude نف Elevator	nstant velocity of 2. ابتدائي ارتفاع عن سطح الارم مصعد	1.00 5 m/s, the static frictio (d) 1.27 Hitting Magnitude Prevent	اصطدم القيمة العددية يمنع
kinetic friction coefficien (a) 0.1 30- A car was going in a (a) 0.816 Referring Thrown Vertically Hangs	(b) 2.6 circular road with a radiu (b) 1.27 العودة الى قذف عامودي معلق	s of 50m with cor (c) 1.00 Initial altitude Elevator Circular	nstant velocity of 2. ابتدائي ارتفاع عن سطح الاره مصعد دائري	1.00 5 m/s, the static frictio (d) 1.27 Hitting Magnitude Prevent Apparent weigh	اصطدم القيمة العددية يمنع الوزن الظاهري
kinetic friction coefficien (a) 0.1 30- A car was going in a (a) 0.816 Referring Thrown Vertically Hangs Horizontal	(b) 2.6 circular road with a radiu (b) 1.27 العودة الى قذف عامودي معلق	s of 50m with cor (c) 1.00 initial altitude Elevator Circular Rough	nstant velocity of 2 ابتدائي ارتفاع عن سطح الارم مصعد دائري خشن	1.00 5 m/s, the static friction (d) 1.27 <u>Hitting</u> <u>Magnitude</u> <u>Prevent</u> <u>Apparent weight</u> Gravitational	اصطدم القيمة العددية يمنع الوزن الظاهري الجاذبية الارضية
kinetic friction coefficien (a) 0.1 30- A car was going in a (a) 0.816 Referring Thrown Vertically Hangs Horizontal Radius	(b) 2.6 circular road with a radiu (b) 1.27 العودة الى قذف عامودي معلق أفقي نصف قطر	s of 50m with cor (c) 1.00 initial altitude Elevator Circular Rough Coefficient	nstant velocity of 2. ابتدائي ارتفاع عن سطح الاره مصعد دائري خشن معامل	1.00 5 m/s, the static friction (d) 1.27 Hitting Magnitude Prevent Apparent weigh Gravitational Frictional	اصطدم القيمة العددية يمنع الوزن الظاهري الجاذبية الارضية الاحتكاك
kinetic friction coefficien (a) 0.1 30- A car was going in a (a) 0.816 Referring Thrown Vertically Hangs Horizontal	(b) 2.6 circular road with a radiu (b) 1.27 العودة الى قذف عامودي معلق	s of 50m with cor (c) 1.00 initial altitude Elevator Circular Rough	nstant velocity of 2 ابتدائي ارتفاع عن سطح الارم مصعد دائري خشن	1.00 5 m/s, the static friction (d) 1.27 <u>Hitting</u> <u>Magnitude</u> <u>Prevent</u> <u>Apparent weight</u> Gravitational	اصطدم القيمة العددية يمنع الوزن الظاهري الجاذبية الارضية