XORAZM ILM ZIYO

FIZIKA

VARIANTLAR TO‘PLAMI

2018

FIZIKA

2018

VARIANTLAR

(Xizmatda foydalanish uchun)

XORAZM ILM ZIYO – 2019

Variant – 1

1. XOY tekislikda harakatlanayotgan moddiy nuqtaning harakat qonuni x=2+t va y=1+2t ko‘rinishga ega. Moddiy nuqtaning trayektoriya tenglamasini tuzing.
   A) y=2x-3. B) y=x-3.
   C) y=2x+3. D) y=x+1.

2. Qanday shartlar bajarilganda moddiy nuqta to‘g‘ri chiziqli tekis sekinlanuvchan harakatni namoyon etadi? a_n-normal tezlanish, a_τ-tangensial tezlanish.
   A) $a_n=0$, $a_\tau=0$. B) $a_n=0$, $a_\tau=const<0$.
   C) $a_n=0$, $a_\tau=const\leq 0$.
   D) $a_n=const$, $a_\tau=0$.

3. Zarraning harakati jadval ko‘rinishida berilgan. Zarraning o‘rtacha ko‘chish tezligini toping (m/s).

t (s)	0,7	0,8	0,9
X (m)	1,6	1	-1

   A) -13. B) 13. C) 14. D) 15.

4. Tekislik og‘ish burchagining sinusi 0,6. Tekislik ustida massasi 8 kg bo‘lgan yuk turibdi. Yukni qo‘zg‘almas ushlab qolish uchun 15 N kuch yetarli bo‘ladimi? Ishqalanish koeffitsiyenti 0,5. g=10 N/kg.
   A) yetarli emas. B) yetarli.
   C) bu kuch yukni yuqoriga tortib ketadi.
   D) ma’lumot yetarli emas.

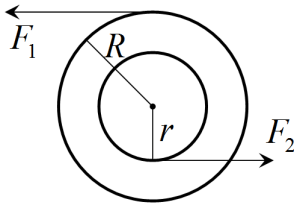
5. Liftda joylashgan qiya tekislik ustida m massali brusok turibdi. Agar lift a tezlanish bilan yuqoriga ko‘tarilsa, brusokning qiya tekislikka ko‘rsatadigan normal bosim kuchini aniqlang. g-erkin tushish tezlanishi.
   A) $mg\cos\alpha$. B) $m(g+a)\cos\alpha$.
   C) $ma\cos\alpha$. D) $m(g+a)\sin\alpha$.

6. Balandligi 40 cm, uzunligi 50 cm bo‘lgan qiya tekislik asosida brusok turibdi. Brusokka qanday minimal tezlik berilsa, u qiyalik uchiga yeta oladi (cm/s)? Bunda ishqalanish koeffitsiyenti 0,3 ga teng. g=10 N/kg.
   A) 313. B) 300. C) 200. D) 100.

7. p impuls bilan harakatlanayotgan sharcha huddi shunday tinch turgan sharchaga elastik urilib, harakatini p/2 impuls bilan davom ettirdi. Ikkinchi sharchaning impulsini toping.
   A) p/2. B) $\sqrt{2}p/2$. C) p/3. D) $\sqrt{3}p/2$.

8. Ikki yassi kondensator kuchlanish tarmog‘iga parallel ulangan. Ikkinchi kondensatorning barcha chiziqli o‘lchamlari birinchisinikidan 1,1 marta ortiq. Ikkinchi kondensatordagi elektr maydon energiyasi birinchisinikidan necha marta ortiq? Dielektrik singdiruvchanlik bir xil.
   A) 1,1. B) 1,21. C) 2,2. D) 1,65.

9. Radiuslari R va r bo‘lgan ikki disk rasmda ko‘rsatilgandek bir-biriga kavsharlangan. Jismlar sistemasining kuch momenti modulini toping (N·m). R=2r=20 cm, F_1=13 N, F_2=10 N.

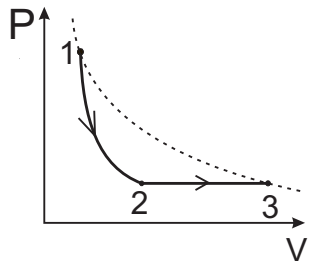


   A) 3,6. B) 1,6. C) 2. D) 5.

10. Ikki mol geliy (He) inert gazi isitkichdan Q_1 issiqlik olib, izobarik kengaymoqda, so‘ngra sovutkichga Q_2 issiqlik berib, izoxorik ravishda

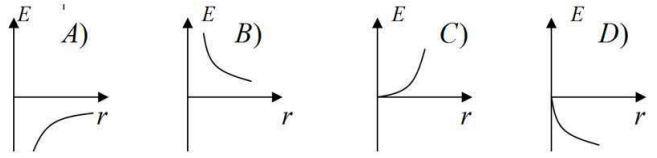
dastlabki temperaturagacha sovutilmoqda. Q_1/Q_2 nisbat topilsin.
A) 1,67. B) 1,33. C) 1. D) 0,66.

11. Ikki atomli gaz dastlab adiabatik, so‘ngra izobarik kengaydi. Ideal gazning boshlang‘ich temperaturasi oxirgi temperaturasiga teng. Gaz to‘liq kengayishda 21 kJ ish bajargan. Adiabatik kengayishda va izobarik kengayishda qancha ish bajarilgan (kJ)?



A) 12,6; 8,4. B) 12,8; 8,7. C) 15; 6.
D) 12,4; 8,6.

12. Yer atrofida harakatlanayotgan kosmik kemaning potensial energiyasini yerdan uzoqligiga bog‘liq grafigini ko‘rsating.

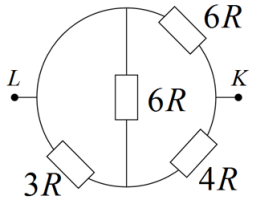


13. Quyidagi tasdiqlardan to‘g‘rilarini aniqlang.
1) jismga qo‘yilgan kuch yo‘nalishi uning sirti bilan $\alpha = \pi/4$ burchak hosil qilganda jism faqat siljish deformatsiyasiga uchraydi;
2) kapillar naychalar bo‘ylab suyuqlik doimo yuqoriga ko‘tariladi;
3) polikristall oltin issiqlikdan kengayganda uning shakli o‘zgarmaydi;
4) polikristall uchun hajmiy kengayish koeffitsiyenti chiziqli kengayish koeffitsiyentidan 3 marta katta.
A) 1, 4. B) 2, 3. C) 3, 4. D) 1,2.

14. Proton va pozitron bir to‘g‘ri chiziq bo‘ylab uzoq masofadan bir xil 340 km/s tezlik bilan bir-biriga yaqinlashmoqda. Ta’sirlashuv so‘nggida protonning tezligi (km/s) qanday bo‘ladi? Protonning massasi pozitronnikidan 1840 marta ortiq.
A) 1160. B) 580. C) 170. D) 340.

15. Silindrik kondensatorda energiya qayerda to‘planadi?
A) ichki va tashqi silindrlar orasida.
B) ichki silindrda.
C) tashqi silindrda.
D) tashqarida.

16. Quyida keltirilgan sxemadan foydalanib K va L nuqtalar orasida umumiy qarshilikni aniqlang.



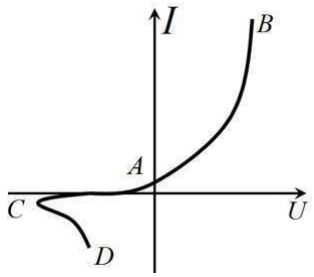
A) 9R. B) R. C) 10R. D) 3R.

17. Yassi kondensatorga 5 nC zaryad berilganda uning qoplamlari orasidagi muhitda hosil bo‘lgan elektr maydon energiya zichligi 0,2 mJ/m^3 ga teng bo‘ldi. Agar kondensator zaryadi 10 nC ga oshirilsa, elektr maydon energiya zichligi qanchaga ortadi (mJ/m^3)?
A) 1,6. B) 1,8. C) 2,2. D) 1,4.

18. Elektr jihatdan yaxshi o‘tkazgich bo‘lgan modda elektr maydonga kiritildi. Modda ichidagi maydon kuchlanganligi tashqaridagiga qaraganda qanday bo‘ladi?
A) kichik. B) katta.
C) nolga teng. D) bir xil.

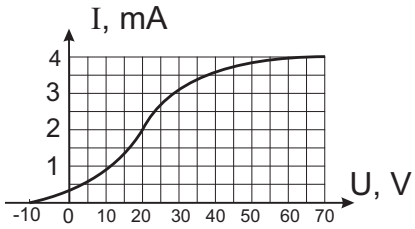
19. Qizdirgich lampaning quvvati 100 W, toza metall qizdirgich elementining nominal temperaturasi 3000 K. Lampa kuchlanish tarmog‘iga (U=220 V) ulangach, temperatura 2700 K ga yetgan paytda lampadan o‘tayotgan tok kuchining qiymati (A) topilsin. Qarshilik qiymati absolut temperaturaga to‘g‘ri proporsional va R(0)=0.
A) 0,38. B) 0,50. C) 0,56. D) 0,42.

20. Diod uchun VAX da to‘g‘ri ulash qismini ko‘rsating?



A) AB. B) BC. C) AC. D) CD.

21. Rasmda vakuumli dioddagi tok kuchining anod kuchlanishiga bog‘liqlik grafigi keltirilgan. Kuchlanish -18 V bo‘lganida diodning qarshiligi qanday bo‘ladi ($k\Omega$)?



A) 18. B) ∞. C) 1/18. D) 1/18000.

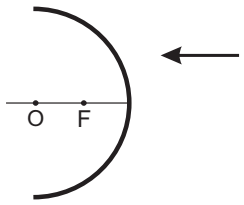
22. Magnit maydonning qaysi qismi kuchliroq hisoblanadi?
A) kuch chiziqlari zich joyida.
B) kuch chiziqlari siyrak joyida.
C) hamma joyida. D) TJY.

23. Dastlab cho‘zilmagan, bikrligi k=30 N/m bo‘lgan prujinaga m=420 g yuk osib qo‘yib yuborilganda A amplitudali garmonik tebranishlar yuzaga keldi. Yukning muvozanat vaziyatidan cho‘zilishi x qanday bo‘lganda uning tezlanishini 5,6 m/s^2 ni tashkil etadi?
A) 0,22A. B) 0,78A.
C) 0,56A. D) 0,5A.

24. Polyarizator va analizatorning bosh tekisliklari orasidagi burchak 45^0. Bu burchakni 60^0 gacha orttirilganda analizatordan chiqayotgan yorug‘likning intensivligi necha marta kamayadi?
A) 4 marta. B) 8 marta.
C) 2 marta. D) 3 marta.

25. Nit qaysi kattalik birligi?
A) yoritilganlik. B) yorqinlik.
C) ravshanlik. D) yorug‘lik kuchi.

26. Chizmada ko‘rsatilgan KL buyumning qavariq ko‘zgudagi tasviri qaysi javobda to‘g‘ri?



A) $\longrightarrow$. B) $\nearrow$. C) $\nwarrow$. D) $\searrow$.

27. Stefan-Boltsman doimiysini ko‘rsating:
A) $\sigma = 5,67 \cdot 10^{-8}\ W/(m^2 \cdot K^4)$.
B) $\sigma = 5,67 \cdot 10^{-10}\ W/(m^2 \cdot K^4)$.
C) $\sigma = 5,67 \cdot 10^{-8}\ W/(m^2 \cdot K^2)$.
D) $\sigma = 5,67 \cdot 10^{-8}\ W/(m \cdot K^4)$.

28. Zarraning kinetik energiyasi $0,1m_0c^2$ ga teng. Uning impulsi nimaga teng? m_0-tinchlikdagi massa.
A) $0,1m_0c$. *B)* $1,1m_0c$.
C) $0,46m_0c$. *D)* $2,1m_0c$.

29. Spini s=3/2 bo‘lgan zarralar?

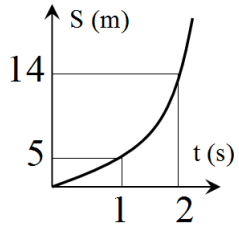
A) π-mezon, K-mezon, η-mezon.
B) elektron, proton, neytron, neytrino, myuon, kvark.
C) foton, glyuon.
D) Ω-giperon, Δ-rezonans.

30. Uglerod atomidagi nuklonlar soni 12 ga teng va yadrosi teng miqdordagi proton va neytronlardan tashkil topgan. Agar ushbu atom ikki karra musbat zaryadlansa, uning atomidagi elektronlar soni nechtaga teng bo‘lib qoladi?
A) 4. B) 5. C) 3. D) 7.

Variant – 2

1. Jismning tekislikdagi harakat tenglamalari x(t)=at+b va y(t)=ct+d ko‘rinishga ega. Bu jismning trayektoriya tenglamasini tuzing.
A) y=(c/a)x-bc/a. B) y=(c/a)x+d.
C) y=(c/a)x+bc/a+d.
D) y=(c/a)x-bc/a+d.

2. Jism bosib o‘tgan yo‘lining vaqtga bog‘lanish grafigi paraboladan iborat. Jismning tezlanishini toping (m/s^2).



A) 7. B) 5. C) 4. D) 3.

3. Oyda erkin tushayotgan jism 4 sekundda qanday masofani bosib o‘tadi (m)? g=1,6 m/s^2.
A) 9. B) 10. C) 13. D) 12,8.

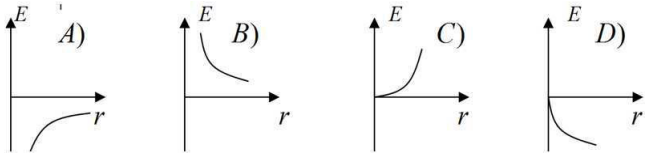
4. Tezyurar poyezdning tezlanishi 12 m/s^2 ga teng. Poyezd vagonlaridan birining shiftiga 5 kg massali yuk osilgan. Poyezd gorizontal yo‘lda harakatlanmoqda deb hisoblab, yukka ta’sir etuvchi barcha kuchlar teng ta’sir etuvchisining qiymatini (N) toping?
A) 5. B) 60. C) 50,4. D) 49.

5. Qiyalik burchagi 30^0 bo‘lgan qiya tekislikda turgan 5 kg massali brusokka ta’sir qiluvchi ishqalanish kuchi bilan asosning to‘liq ta’sir etuvchi kuchi orasidagi burchak kosinusi nimaga teng? $tg\alpha = \mu$.
A) 1/2. B) 1/3. C) 2/3. D) 1.

6. Balandligi 60 cm, uzunligi 1 m bo‘lgan qiya tekislik asosida brusok turibdi. Brusokka qanday minimal tezlik berilsa, u qiyalik uchiga yeta oladi (m/s)? Bunda ishqalanish koeffitsiyenti 0,5 ga teng. g=10 N/kg.
A) $\sqrt{20}$. B) 4. C) 2,5. D) 2.

7. Qanday to‘qnashuvda impuls uchun $p^2 = p_1^2 + p_2^2$ shart bajariladi?
A) harakatdagi sharning huddi shunday tinch turgan shar bilan elastik to‘qnashuvida.
B) sharlarning har qanday to‘qnashuvida.
C) harakatdagi sharning huddi shunday tinch turgan shar bilan to‘qnashuvida.
D) harakatdagi sharning huddi shunday tinch turgan shar bilan markaziy to‘qnashuvida.

8. Yer atrofida harakatlanayotgan kosmik kemaning to‘la energiyasini yerdan uzoqligiga bog‘liq grafigini ko‘rsating.



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	A	D	B	A	C	D	A	A	A	D	A	B	C	B	B	A	**1**
2	B	C	B	A	D	B	D	D	A	C	D	B	A	C	A	D	**2**
3	A	D	A	C	D	D	B	D	C	C	B	A	D	D	D	C	**3**
4	A	B	A	D	D	B	B	A	C	B	A	C	B	B	D	A	**4**
5	B	A	D	A	A	B	C	A	B	C	D	C	A	A	A	D	**5**
6	A	A	C	D	C	A	A	B	B	B	B	B	B	D	D	C	**6**
7	D	A	C	B	A	C	B	B	C	A	C	B	C	A	A	D	**7**
8	A	A	A	A	B	A	A	A	C	C	C	B	C	B	A	B	**8**
9	A	B	A	A	A	A	A	A	C	D	D	C	A	B	A	A	**9**
10	A	C	C	D	D	C	D	B	B	C	A	C	A	D	D	A	**10**
11	C	D	B	C	A	D	D	D	A	A	A	A	C	D	B	C	**11**
12	A	C	C	A	C	C	D	A	A	C	A	B	A	A	A	C	**12**
13	C	A	A	B	D	B	D	D	C	A	B	C	B	A	C	A	**13**
14	D	A	A	A	A	C	C	D	C	B	C	C	A	A	D	D	**14**
15	A	A	B	B	A	C	A	B	B	B	B	A	A	B	D	D	**15**
16	D	A	A	B	A	A	A	D	B	C	A	A	B	A	B	B	**16**
17	A	C	D	A	C	A	A	A	B	D	D	C	A	A	D	A	**17**
18	C	A	B	B	C	D	D	B	D	A	A	B	B	A	D	A	**18**
19	B	B	A	C	A	A	B	A	A	A	D	B	A	C	A	C	**19**
20	A	A	B	B	A	C	A	A	C	A	B	B	D	C	A	B	**20**
21	B	C	B	D	D	B	A	D	B	C	B	C	B	B	C	B	**21**
22	A	A	C	D	B	A	C	A	B	B	C	B	A	C	B	D	**22**
23	C	C	A	A	D	A	A	B	B	B	D	C	A	A	D	C	**23**
24	C	A	B	C	B	B	B	B	D	A	C	C	B	D	C	A	**24**
25	C	D	A	B	A	B	A	A	A	D	A	A	A	A	A	A	**25**
26	B	B	C	C	C	D	B	D	D	C	C	D	C	B	C	A	**26**
27	A	D	C	A	C	A	B	B	B	B	A	D	C	C	C	C	**27**
28	C	D	D	A	A	A	B	D	D	D	A	A	D	B	C	D	**28**
29	D	B	B	B	B	A	C	A	A	B	A	B	C	C	C	D	**29**
30	A	A	A	A	A	A	A	D	C	C	A	B	A	C	A	C	**30**

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
1	C	A	A	A	D	A	D	C	A	C	D	A	B	C	A		**1**
2	A	C	C	B	A	A	D	A	A	C	B	C	A	A	C		**2**
3	B	A	B	A	D	A	C	B	D	B	D	D	B	D	D		**3**
4	D	B	B	A	A	A	A	B	B	D	B	C	C	D	B		**4**
5	D	C	C	C	D	D	A	D	D	A	A	A	A	A	B		**5**
6	C	B	A	B	C	A	C	D	A	B	B	D	C	B	B		**6**
7	B	C	A	D	D	B	D	D	A	A	A	A	A	A	D		**7**
8	A	D	A	B	C	D	A	D	A	B	A	A	B	C	A		**8**
9	D	C	A	D	A	C	D	C	D	D	A	A	A	A	A		**9**
10	A	B	A	D	D	A	A	B	B	B	C	A	B	C	D		**10**
11	C	C	C	A	A	A	C	A	A	A	A	A	A	A	A		**11**
12	A	D	C	A	A	C	B	D	C	B	D	A	D	A	A		**12**
13	B	B	A	B	B	D	B	D	A	B	D	C	A	D	A		**13**
14	A	D	A	D	A	D	D	A	C	B	D	A	C	A	A		**14**
15	D	B	A	A	A	D	A	B	B	D	A	A	A	B	D		**15**
16	C	A	B	C	C	C	D	A	A	A	D	D	C	D	A		**16**
17	B	B	D	C	B	A	C	C	C	D	D	A	B	D	B		**17**
18	C	D	B	C	A	B	C	D	D	A	A	A	A	C	B		**18**
19	B	B	B	C	D	A	B	C	B	A	B	A	D	B	A		**19**
20	D	C	C	A	A	C	B	C	A	C	A	B	A	C	A		**20**
21	A	C	B	B	A	C	A	B	C	A	B	A	A	C	D		**21**
22	C	A	B	C	D	D	D	A	A	A	A	A	A	B	A		**22**
23	D	A	A	A	A	B	C	A	A	B	C	D	D	D	C		**23**
24	B	A	C	B	A	A	A	A	A	B	B	B	B	A	A		**24**
25	A	A	C	B	D	D	A	B	A	B	C	D	A	C	A		**25**
26	A	A	C	A	C	B	A	C	A	A	D	A	D	A	D		**26**
27	B	A	B	D	D	C	A	D	D	C	C	C	B	A	C		**27**
28	C	D	A	C	A	D	B	A	B	C	D	C	A	B	C		**28**
29	A	A	A	C	A	A	A	A	B	A	A	C	A	C	B		**29**
30	A	D	C	C	C	B	C	A	B	B	A	C	D	A	C		**30**

FIZIKA
2018
VARIANTLAR

Tuzuvchi va muharrir: **Jumaniyazov Temur (Xorazm, Urganch)**

Testlar bo‘yicha ekspert: **Sayfiyev Farruhjon (Farg‘ona, Yozyovon)**

Ushbu variantlar to‘plami 2018-yil imtihonda tushgan test savollari asosida tuzilgan. Unda 30 talikdan bir-birini takrorlamaydigan 31 ta variant mavjud bo‘lib, 930 ta umumiy test bazasini o‘z ichiga olgan. Mazkur variantlar to‘plami maktab, Akademik litsey va kasb-hunar kollejlari o‘quvchilari va abituriyent uchun mo‘ljallangan.

Manzil: Xorazm viloyati, Urganch shahri, Gurlan ko‘chasi, 33/1 uy

Telegramdagi kanalimiz: @FizikaLife

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