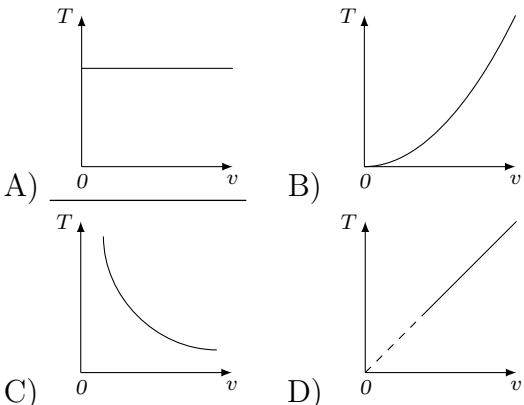


FIZIKA

- Vagonning tezlanishi  $36000 \text{ km/h}^2$ . Bu necha  $\text{m/s}^2$ ?  
A) 2,8 B) 1,4 C) 0,28 D) 0,55
- Baland minora tomidan jism  $10 \text{ m/s}$  tezlik bilan vertikal yuqoriga otildi. Bu jism 3 s da qanday masofaga (m) ko'chadi?  
A) 15 B) 45 C) 30 D) 40
- Zaryadli zarra magnit maydonda aylanmoqda. Aylanish davrining zarra tezligiga bog'liqligi qaysi rasmda to'g'ri tasvirlangan?  


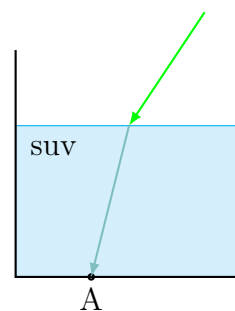
A) 0 B) 0 C) 0 D) 0
- Proton, antiproton va  $\gamma$ -kvant berilgan. Elektr maydon ularning qaysilariga tezlanish beradi?  
A) **proton va antiprotonga**  
B) antiproton va  $\gamma$ -kvantga  
C) proton va  $\gamma$ -kvantga  
D) faqat protonga
- Liftdagi jismning og'irligi  $9 \text{ N}$ , unga ta'sir etuvchi natijaviy kuch  $4 \text{ N}$  (pastga yo'nalgan). Jismning og'irlik kuchi (N) qanday?  
A) 13 B) 5 C) 10 D) 15
- $3 \text{ m/s}$  tezlik bilan yugurayotgan  $60 \text{ kg}$  massali bolaning impulsi ( $\text{kg}\cdot\text{m/s}$ ) qanday?  
A) 180 B) 20 C) 80 D) 120

- Mis va alyuminiy jismlarning hajmlari va impulslari teng. Qaysinisining tezligi kattaroq?  
A) *mis jismniki*  
B) **alyuminiy jismniki**  
C) *ikkisining tezligi teng*  
D) *agar ular shar shaklida bo'lsa mis jismniki, kub shaklida bo'lsa alyuminiy jismniki*

- Prujinaga osilgan jismning koordinatasi  $x = A \sin \omega t$  qonun bo'yicha o'zgarmoqda, bunda  $A=12 \text{ cm}$ ,  $\omega=24 \text{ rad/s}$ . Tebranish chastotasi (Hz) nimaga teng?  $\pi=3$ .  
A) 4 B) 2 C) 1/4 D) 1/2

- Prujinali mayatnikning tebranish amplitudasi 1,1 marta ortsa, tebranish chastotasi qanday o'zgaradi?  
A) *1,1 marta ortadi*  
B) *1,1 marta kamayadi* C) *o'zgarmaydi*  
D) *1,21 marta kamayadi*

- Suv sirtiga tushib singan yashil nur suvning tubidagi A nuqtaga yetib kelgan. Nurning rangi qizil bo'lganida u qayerdagi nuqtaga yetib kelar edi?



- A nuqtadan chapdagi nuqtaga**
- A nuqtadan o'ngdagi nuqtaga
- A nuqtaga
- to'liq ichki qaytish tufayli qizil nur suvning tubiga etib kelmas edi*

11. Ikki dona lavlagi urug'ini bahorda yumshatilgan tuproqqa 4 cm chuqurlikka ekildi, ikkinchi urug' ekilgan joy etik tovonini bilan qattiq bosib qo'yildi. Bu ikki urug'ning namlik bilan ta'minlanishi qanday bo'ladi?

- A) yaxshi; yaxshi  
 B) yaxshi; yomon  
 C) yomon; yaxshi  
 D) yomon; yomon

12. Hajmi 5 l bo'lgan idishdagi ideal gazning bosimi 0,01 Pa, temperaturasi 290 K bo'lsa, gaz molekularining soni topilsin.

- A)  $1,25 \cdot 10^{16}$  B)  $2,5 \cdot 10^{15}$  C)  $2,5 \cdot 10^{16}$   
 D)  $1,5 \cdot 10^{18}$

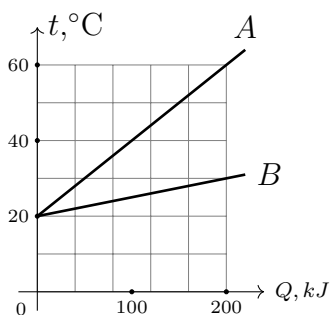
13. Bir mol alyuminiyning issiqlik sig'imi (J/K) nimaga teng?

- A) 24,3 B) 900 C) 450 D) 48,6

14. Issiqlik almashinuvi ro'y bermaydigan termodinamik jarayon qaysi?

- A) izotermik B) adiabatik C) izoxorik  
 D) izobarik

15. Ikki idishdagi (A va B) suv temperaturasining ularga berilgan issiqlik miqdoriga bog'lanish grafiklari chizilgan. Idishlardagi suv massalari necha marta farq qiladi? (Idishlarning issiqlik sig'imini inobatga olmang.)

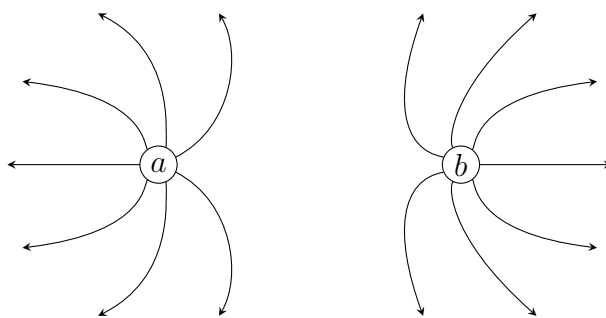


- A) 2 B) 4 C) 3 D) 6

16. Geliy gaziga izoxorik tarzda 90 J issiqlik miqdori berildi, so'ngra gaz dastlabki haroratgacha izobarik sovitildi. Ikkinchi jarayonda qancha issiqlik miqdori (J) ajralib chiqdi?

- A) 150 B) 200 C) 175 D) 75

17. Rasmda teng miqdorda zaryadlangan a, b nuqtaviy zaryadlar va ularning natijaviy elektr maydon kuch chiziqlari tasvirlangan. Zaryadlarning ishoralarini aniqlang.

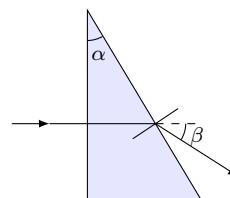


- A) a(+), b(-) B) a(-), b(+)  
 C) a(+), b(+) D) a(-), b(-)

18. 4e nuqtaviy zaryad -5e nuqtaviy zaryad bilan ta'sirlashmoqda. Sistemaning ta'sirlashuv potensial energiyasi qanday ishoraga ega?

- A) musbat  
 B) manfiy  
 C) nolga teng  
 D) turli ishorali bo'lishi mumkin

19. O'quvchi prizmaning sindirish ko'rsatkichini aniqlash uchun optik tajriba o'tkazdi (rasm). Bu tajribaga asosan sindirish ko'rsatkichi qaysi formula bo'yicha aniqlanadi?



- A)  $\frac{\sin(\alpha + \beta)}{\sin \alpha}$  B)  $\frac{\sin(\alpha - \beta)}{\sin \alpha}$   
 C)  $\frac{\sin(\alpha + \beta)}{2 \sin \alpha}$  D)  $\frac{\sin(\alpha + \beta)}{\cos \alpha}$

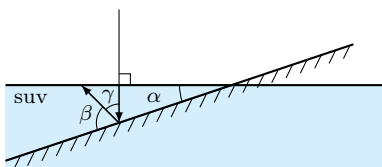
20. Uzunligi 1 km bo'lgan nixrom simning qarshiligini ( $\Omega$ ) aniqlang. Simning ko'ndalang kesim yuzi 2 mm<sup>2</sup>.

- A) 550 B) 55 C) 5,5 D) 5500

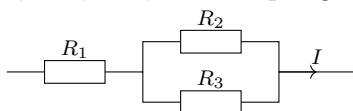
21. Eritmada mis ionlari (Cu<sup>2+</sup>) bor. Katodda 100 g mis ajralib chiqishi uchun katod orqali nechta elementar zaryad (e) o'tishi kerak?

- A)  $1,9 \cdot 10^{24}$  B)  $1,9 \cdot 10^{21}$  C)  $1,9 \cdot 10^{19}$   
 D)  $1,9 \cdot 10^{20}$

22. G'altakdagi tok 0,5 s davomida 0 dan 2 A gacha tekis ortganda g'altakda 20 mV o'zinduksion EYuK vujudga keldi. G'altakning induktivligini (mH) aniqlang.  
 A) 5 B) 0,5 C) 50 D) 0,05
23. Ko'zgu suvga burchak ostida kiritilgan. Agar  $\alpha = 20^\circ$  bo'lsa, nurning akslanishini aniqlovchi  $\gamma$  burchak topilsin.



- A) 40° B) 30° C) 20° D) 50°
24. O'zgaruvchan tok manbayiga kattaligi  $8\text{ k}\Omega$  bo'lgan aktiv qarshilik va induktivligi 20 H bo'lgan induktiv g'altak ketma-ket ulangan. Agar o'zgaruvchan tokning chastotasi 50 Hz bo'lsa, zanjirning to'la qarshiligini ( $k\Omega$ ) aniqlang.  $\pi = 3$   
 A) 10 B) 6 C) 8 D) 12
25. Agar  $R_1 = R_2 = R_3$  bo'lsa, rezistorlardan bir xil vaqt davomida ajralib chiqayotgan issiqlik miqdorlarining nisbati  $Q_1 : Q_2 : Q_3$  ni aniqlang.



- A) 4:1:1 B) 1:1:1 C) 4:4:1 D) 1:4:4

26. Yig'uvchi linza yordamida ekranda buyumning 3 marta kattalashgan haqiqiy tasviri hosil qilindi. Buyum va tasvir orasidagi masofa 1,6 m bo'lsa, linzaning optik kuchini (dptr) aniqlang.  
 A) 10/3 B) 3/10 C) 4 D) 1/4
27. Litiy uchun elektronlarning metalldan chiqish ishi 2,3 eV. Bu energiyaning J birligidagi qiymati qanday?  
 A)  $3,7 \cdot 10^{-19}$  B)  $3 \cdot 10^{-19}$  C)  $4 \cdot 10^{-19}$   
 D)  $7,5 \cdot 10^{-19}$
28. Akkumulyatorga ulangan kondensator zaryadlanib, E energiya to'pladi. Bunda akkumulyator qancha energiya sarfladi?  
 A) E B) 1,25E C) 1,5E D) 2E
29. Oyning sirtidagi kosmonavt yopiq shishadagi suvni ochdi. Bunda nima ro'y beradi?  
 A) suv isib, qaynab ketadi  
 B) **suv qaynab ketadi, soviydi, qolgan qismi muzlab qoladi**  
 C) suv isib qoladi  
 D) suvning holati o'zgarmaydi

30. Quyidagi elektr sxema asosida yig'ilgan elektr zanjirini aniqlang.

