

TEST

1. Ikki yoriqli tajribada tasma oralig'i Δx qanday ifodalanadi?

- A) $\Delta x = d \cdot L / \lambda$
- B) $\Delta x = \lambda \cdot L / d$
- C) $\Delta x = \lambda \cdot d / L$
- D) $\Delta x = L / (\lambda \cdot d)$

2. $\lambda = 600 \text{ nm}$, $d = 0,30 \text{ mm}$, $L = 2 \text{ m}$. $m = 3$ maksimumning ekrandagi joyi:

- A) 4,0 mm
- B) 12,0 mm
- C) 6,0 mm
- D) 3,6 mm

3. Ikki yoriqda biror maksimal uchun shart qaysi?

- A) $d \cdot \sin\theta = \lambda$
- B) $d \cdot \sin\theta = m \cdot \lambda$
- C) $d \cdot \sin\theta = (m + 1/2) \cdot \lambda$
- D) $\sin\theta = \lambda / d$

4. Pelyonkaning pastki sirtida faza siljishi 0, yuqori sirtida π bo'lsa, reflektiv konstruktiv interferensiya sharti:

- A) $2 \cdot n \cdot d = m \cdot \lambda$
- B) $2 \cdot n \cdot d = (m + 1/2) \cdot \lambda$
- C) $2 \cdot n \cdot d = (m + 2) \cdot \lambda$
- D) $2 \cdot n \cdot d = \lambda / m$

5. Ingichka pelyonka qalinligi $d = \lambda/(4n)$. Qaysi hol sodir bo'ladi?

- A) Transmissiyada eng kuchli yorug'lik
- B) Aks etishda eng kuchli yorug'lik
- C) Faqat minimumlar yo'qoladi
- D) Faqat maksimumlar yo'qoladi

6. Bir yoriqli difraksiyada birinchi minimum burchagi formulasi:

- A) $b \cdot \sin\theta = \lambda$
- B) $b \cdot \sin\theta = 2 \cdot \lambda$
- C) $b \cdot \sin\theta = m \cdot \lambda \ (m = 2)$
- D) $\sin\theta = b / \lambda$

7. Yoriq kengligi ikki baravar kichraytirilsa, markaziy maksimum kengligi:

- A) ikki baravar torayadi
- B) ikki baravar kengayadi
- C) o'zgarmaydi
- D) to'rt baravar kengayadi

8. Diffraktsion panjara doimiysi $d = 2,0 \mu m$. $\lambda = 500 nm$ uchun birinchi tartibli maksimumning $\sin\theta$ qiymati:

- A) 0,10
- B) 0,25
- C) 0,50
- D) 0,75

9. Panjara zichligi oshsa, maksimumlar qanday o'zgaradi?

- A) bir-biriga yaqinlashadi
- B) uzoqlashadi
- C) yo'qoladi
- D) juda torayadi, lekin joyi o'zgarmaydi

10. Ajratish qobiliyati R ning formulasi:

- A) $R = \lambda / (m \cdot N)$
- B) $R = m \cdot N$
- C) $R = N / \lambda$
- D) $R = m / N$

11. Polarizator qutblanmagan yorug'likni qanday o'tkazadi?

- A) 100%
- B) 75%
- C) 50%
- D) 25%

12. Mal'yus qonuni qaysi formula bilan ifodalanadi?

- A) $I = I_0 \cdot \sin^2\alpha$
- B) $I = I_0 \cdot \cos\alpha$
- C) $I = I_0 \cdot \cos^2\alpha$
- D) $I = I_0 / \cos^2\alpha$

13. Brevster burchagi sharti qaysi?

- A) $\sin\theta_B = n_2 / n_1$
- B) $\operatorname{tg}\theta_B = n_2 / n_1$
- C) $\cos\theta_B = n_2 / n_1$
- D) $\theta_B = n_1 \cdot n_2$

14. Qaysi burchakda aks etgan nur to'liq qutblangan bo'ladi?

- A) θ_B
- B) 45°
- C) 90°
- D) 0°

15. Mikelson interferometrida oynani Δ masofaga surish yo'l farqini nechaga o'zgartiradi?

- A) Δ
- B) $\Delta/2$
- C) 2Δ
- D) 4Δ

16. Michelson interferometrida 10 ta frinj siljishi kuzatildi. Yo'l farqidagi o'zgarish:

- A) 10λ
- B) 5λ
- C) 20λ
- D) $\lambda/10$

17. Kogerensiya uzunligi L_c kichik bo'lsa, interferensiya tasmlari:

- A) juda aniq ko'rinadi
- B) yo'qolib ketadi
- C) bir-biridan ajralmaydi
- D) rang-barang bo'ladi

18. Nyuton halqalarida havo qatlamining qalinligi t bo'lsa, halqa sharti:

- A) $r^2 = \lambda \cdot t$
- B) $r^2 = m \cdot \lambda \cdot R$
- C) $2t = \lambda$
- D) $2t = m \cdot \lambda$

19. Panjarada $\sin\theta > 1$ bo'lsa, bu maksimum:

- A) juda yorqin
- B) mavjud emas
- C) ikki baravar bo'ladi
- D) λ o'zgaradi

20. Ikki yoriq tajribasida yorug'lik manbasi monoxromatik bo'lmasa, tasvir:

- A) kuchli kontrastli bo'ladi
- B) rangsiz bo'ladi
- C) buziladi yoki rangli tasma hosil bo'ladi
- D) tasma oralig'i ikki baravar oshadi

JAVOBLAR

- 1. B
- 2. B
- 3. B
- 4. B
- 5. B
- 6. A
- 7. B
- 8. C
- 9. B
- 10. B
- 11. C
- 12. C
- 13. B
- 14. A
- 15. C
- 16. C
- 17. B
- 18. B
- 19. B
- 20. C