**WB VOCLET 2013 Solved Paper Physics**

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| **VOCLET 2013 Solved paper Physics part** |
| 1. The speed of light in a medium of refractive index 1.5 is: a) 3x108 m/s b) 2x108 m/s c) 4.5x108 m/s d) 1.5x108 m/s Ans: b) 2x108 m/s | 2. A vessel contains oil (density=0.8g/cm3) over mercury (density=13.6g/cm3). A homogeneoussphere floats with half its volume immersed in mercury and other half in oil. The density of the material of the sphere in g/cm3: a) 3.3 gm/cm8 b) 6.4 gm/cm8c) 7.2 gm/cm8 d) 12.8 gm/cm8 Ans: c) 7.2 gm/cm8 |
| 3. A ray of light passes from vacuum into a medium of refractive index μ. If the reflected ray and the refracted ray are perpendicular to each other, the angel of incidence is: a) tan-1μ b) sin-1μ c) cos-1μ d) 2sin-1(μ/2) Ans: a) tan-1μ | 4. A certain wire has resistance of 10 ohm. If it is stretched by 1/10th of its length then the resistance is nearly: a) 9 ohm b) 10 ohmc) 11 ohm d) 12 ohm Ans: c) 11 ohm |
| 5. A virtual image is formed by a convex lens when the object lies: a) on focus b) between f and 2f c) within focus and pole d) between 2f and infinity Ans: b) between f and 2f and d) between 2f and infinity | 6. Equivalent resistance between A and B is :a) 9 Ω b) 4 Ωc) 7 Ω d) 5Ω Ans: c) 11Ω |
| 7. A boat takes 2 hours to travel 8km and back in still water. If the velocity of water is 4 km/hr, the time taken for going upstream 8 km and coming back is : a) 2 hr b) 2 hr 40 min c) 1 hr 20 min d) 4 hr Ans: b) 2 hr 40 min | 8. The work done by a lifting machine in lifting a load of 100 kg to the top of building of height 20 m is (g=9.8 m/s2) : a) 0.196 x 103J b) 1.196 x 103Jc) 19.6 x 103J d) 196.0 x 103J Ans: c) 19.6 x 103J |
| 9. The S.I unit of magnetic flux is : a) weber/m^2 b) amp-m^2 c) weber d) volt Ans: c) weber | 10. A cork of specific gravity 0.8 is taken under water (sp. gr.=1) and relesed. THe upward acceleration of the cork is : a) g b) g/2c) g/4 d) g/6 Ans: c) g/4 |
| 11. Two body of masses mA and mB (mA> mB) and momentum PA and PB respectively have the same kinetic energy (KE). Then : a) PA = PB b) PA < PBc) PA > PB d) PA ≈ PB (≈ approximately equal to) Ans: c) PA > PB | 12. The power of a concave lens of focal length 20 cm is : a) +5.0 D b) -5.0 Dc) +0.5 D d) -0.5 DAns: b) -5.0 D |
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| 13. The critical angle of light ray from medium A into medium B is θ. The speed of light in medium A is v. The speed of light in medium B is : a) v/sinθ b) v sinθc) v/tanθ d) v tanθ Ans: a) v/sinθ | 14. A body, starting from rest and moving with a constant acceleration, covers a distance s1 in 2nd second and a distance s2in the 4th second. The ratio of s1/ s2 is : a) 1/4 b) 3/7c) 1/3 d) 5/9Ans: b) 3/7 |
| 15. Four wires of the same material are stretched by the same load. The dimensions are given below. Which of them will elongate the most ? a) length-100 cm, diameter-1mm b) length-200 cm, diameter-2mmc) length-300 cm, diameter-3mm d) length-400 cm, diameter-0.5mm Ans: d) length-400 cm, diameter-0.5mm | 16. Energy per unit volume of a stretched wire is : a) 1/2 x load x strain b) load x strainc) stress and strain d) 1/2 x stress x strainAns: d) 1/2 x stress x strain |
| 17. Two rods of lengths l1 and l2 are made of materials whose co-efficient of linear expansion are α1 and α2. If the difference between the two lengths be independent of temperature : a) l1/l2 = α1/α2 b) l1/l2 = α2/α1c) l1^2 α1 = l2^2 α2d) α1^2 /l1 = α2^2 / l2 Ans: b) l1/l2 = α2/α1 | 18. Which one of the following has highest persentage increase when a copper sphere is heated ? a) length b) areac) volume d) diameterAns: c) volume |
| 19. A metallic wire of resistance 12 Ω is bent to form a square. The resistance between the two diagonal points will be : a) 12 Ω b) 24 Ωc) 6 Ωd) 3 Ω Ans: d) 3 Ω | 20. The co-efficient cubical expansion of a substance is 27x10-6 ° C-1. The increase in length of a rod of length 1 m of that substance for 1°C rise in temperature a) 27x10-6 m b) 27x10-6 cmc) 9x10-6 md) 9x10-6 cmAns: a) 27x10-6 m |
| 21. What must be the work done to produce 1K Cal heat ? :a) 4.2 J b) 4.2 x 103 Jc) 4.2 x 107 Jd) none of the above Ans: b) 4.2 x 103 J | 22. What is the minimum resistance that can be made by using ten 0.1 Ω resistors? a) 1 Ω b) 0.1 Ωc) 0.0001 Ωd) 0.01 ΩAns: d) 0.01 Ω |
| 23. State which one of the following is correct ? a) joule= coulomb x volt b) joule= coulomb / voltc) joule= volt / ampered) joule= volt x ampereAns: a) joule= coulomb x volt | 24. The magnetic flux Φ (in weber) linked with a coil varies with time t (in second) according to the equation Φ=6t2-5t+1. The magnitude of the induced emf in coil at t=0.25 s is :a) 12 V b) 8 Vc) 6 Vd) 2 VAns: d) 2 V |
| 25. A conducting circular loop of redius r carries a constant current I. It is placed in an uniform magnetic field B such that B is perpendicular to the plane of the loop. The magnetic force acting on the loop is ? a) BIr b) 2ΠIrBc) Zerod) ΠIrBAns: c) Zero | \*\* All answers are provided here according of my knowledge and some research on net. I would not want to supply any wrong answer, but no body is perfect. If you think any answer(s) provided here is/are wrong then please write the right answer in the comment box. I will be thankful to you. |