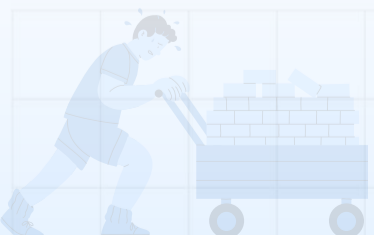


Work Done


- Work is done only when force causes **displacement in the direction of force**.
- **If displacement is zero**, work done is zero even if force acts.
- Work is given by $W = F s$ only when force and displacement are in the same direction.
- General expression for work is $W = F s \cos\theta$, where θ is angle between force and displacement.
- Work is positive when **force and displacement are in the same direction**.
- Work is negative when **force opposes displacement**, as in friction.
- Work is zero when **force is perpendicular to displacement**, as in circular motion.
- **Joule** is the SI unit of work and energy, not force or power.
- **Centripetal force** does zero work because it acts perpendicular to motion.
- **Normal reaction does zero work** because it is perpendicular to displacement.




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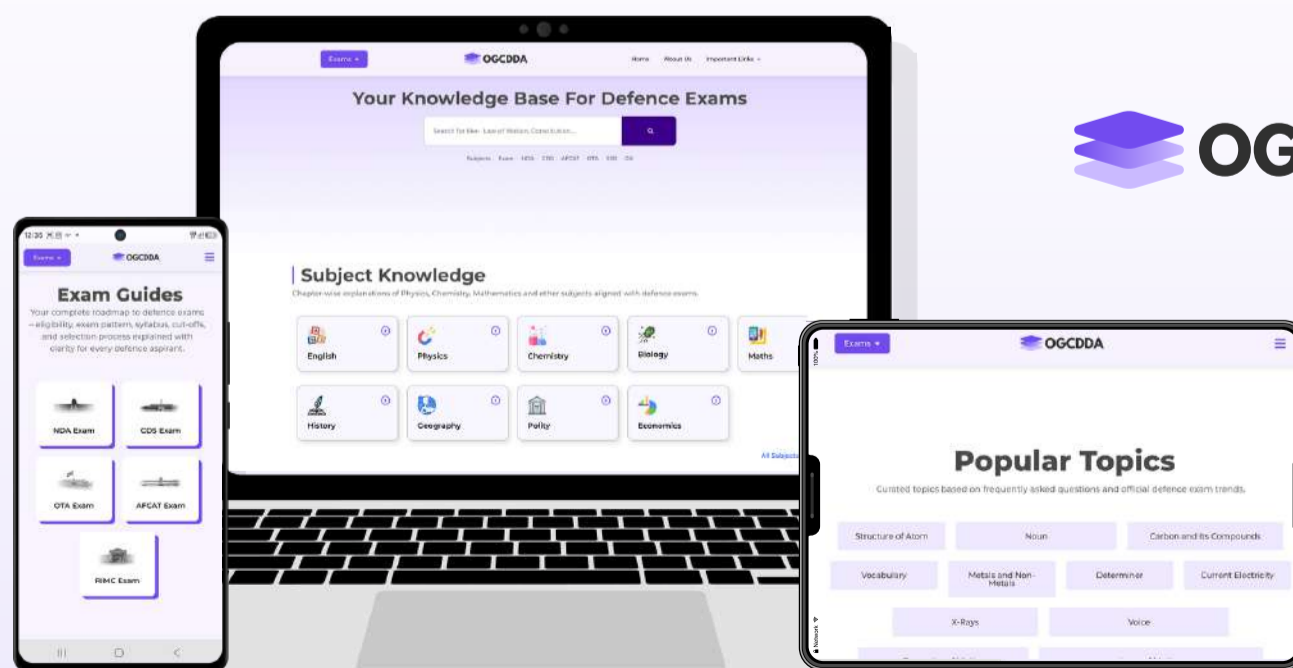
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The image displays the OGCDDA website interface across three devices: a laptop, a tablet, and a smartphone. The laptop screen shows the main page with the heading "Your Knowledge Base For Defence Exams" and a search bar. Below the search bar, there is a "Subject Knowledge" section with a grid of subject buttons: English, Physics, Chemistry, Biology, Maths, History, Geography, Polity, and Economics. The tablet screen shows the "Exam Guides" section, listing NDA Exam, CDS Exam, OTA Exam, AFCAT Exam, and RIMC Exam. The smartphone screen shows the "Popular Topics" section, listing various topics like Structure of Atom, Noun, Carbon and its Compounds, Vocabulary, Metals and Non-Metals, Determiner, Current Electricity, X-Rays, and Voice. The OGCDDA logo is visible in the top right corner of the laptop screen.

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