Easy | Assistant Engineer (Electrical), Clas | 2025 | Building Department

What is the direction of the electric field at a point?

A. Along the line perpendicular to the electric field

B. **Along the line tangent to the electric field** — Correct

C. Electric field has no direction

D. Electric field has a random direction

Correct Answer: B

Full Detailed Explanation

Concept & ReasoningElectric-field lines are a graphical representation of the vector field E. A field line is drawn so that its tangent at every point is parallel to the local electric-field vector. Therefore, a point does not have a field direction perpendicular to the line or a random direction. The convention is based on the force on a positive test charge: E = F/q for a sufficiently small positive q.How to Solve It in the ExamTangent to the field line = field direction.Important Exam PointWhenever a question asks the direction at a point on a field line, visualize a tangent arrow at that point.Related Revision PathThis question sits in the revision path Electromagnetic Fields Electric Field Field Lines .

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