Paper III

[99 2 356]

(For the Candidates admitted from 1999 and onwards)

M.Sc. DEGREE EXAMINATION, APRIL 2000.

Second Semester

Part III — Physics

QUANTUM MECHANICS — I

Time : Three hours Maximum : 100 marks

Answer ALL questions.

SECTION A — ($10 \times 2 = 20$ marks)

1. If $|P\rangle = |A\rangle + |B\rangle$ then $\langle P|$ is

   (a) $|A\rangle + \langle B|$ (b) $\langle A| + \langle B|$

   (c) $\langle A| + |B\rangle$ (d) $\langle A | B\rangle$.

2. By variation method

   (a) $\int \psi^* H \psi \, d\partial \leq E_0$

   (b) $\int \psi^* H \psi \, d\partial \geq E_0$

   (c) $\int \psi^* H \psi \, d\partial < E_0$

   (d) $\int \psi^* H \psi \, d\partial > E_0$