RESULTS
The effect of experimental diabetes on blood glucose, serum testosterone, body weight, testicular and accessory sex organs' weight is given in Fig. 1.

Blood glucose level registered a significant increase in experimental diabetic animals ($P < 0.01$) while serum testosterone showed an opposite trend ($P < 0.05$).

The body weight was significantly decreased ($P < 0.01$) due to diabetes, so also the seminal vesicle ($P < 0.01$) and ventral prostate ($P < 0.05$) weights. However, there was no significant reduction in the testicular weight.

The changes induced by diabetes in the specific activities of testicular glycolytic enzymes are given in Fig. 2.

Of the glycolytic enzymes studied, pyruvate kinase ($P < 0.05$) showed a significant decrease and glucose-6-phosphate dehydrogenase ($P < 0.01$) showed a significant increase in activity. Hexokinase, phosphofructokinase and lactate dehydrogenase however, did not
show any appreciable change in activities.

Diabetes induced changes in the specific activities of LDH isozymes in the testis are given in Fig. 3.

Among the five fractions, only LDH₃ (P < 0.05) and LDH₅ (P < 0.01) showed a marked increase in specific activities, whereas LDH₁, LDH₂ and LDH₄ did not show any significant alteration. Unlike LDH₃ and LDH₅, the LDHₓ, which is a fraction specific to the testicular tissue, however, registered a significant decrease in activity (P < 0.01).

The alterations in the specific activities of testicular adenosine triphosphatases are given in Fig. 4.

Both sodium-potassium and magnesium dependent ATPases showed significant decrease (P < 0.05) in activities, whereas calcium-dependent ATPase activity was not appreciably altered.
Fig. 1 Effect of experimental diabetes mellitus on blood glucose, serum testosterone, body weight, testicular and accessory sex organs' weight of mature rats

Each value is mean ± SE of 5 observations. Control vs Experimental * p<0.05; ** p<0.01
The vertical line on either side of the top of the histogram represents SEM.
Fig. 2 Effect of experimental diabetes mellitus on the specific activities of testicular glycolytic enzymes of mature rats

Each value is mean ± SE of 5 observations. Control vs Experimental. * p < 0.05, ** p < 0.01
The vertical line on either side of the top of the histogram represents SEM
Fig. 3. Effect of experimental diabetes mellitus on the specific activities of testicular LDH isozymes of mature rats

Each value is mean ± SE of 5 observations Control vs Experimental. * p < 0.05, ** p < 0.01
The vertical line on either side of the top of the histogram represents SEM
Fig. 4: Effect of experimental diabetes mellitus on the specific activities of testicular adenosine triphosphatases (Na⁺-K⁺, Mg²⁺, and Ca²⁺) of mature rats.

Each value is mean ± SE of 5 observations. Control vs Experimental * p < 0.05
The vertical line on either side of the top of the histogram represents SEM.