GENERAL CONCLUSIONS FROM THE PRESENT WORK

1. It is seen that an innovative helicoidal cooling passage provides an augmented convective area for better heat dissipation.

2. It is also found from the analysis that out of the various configurations of turbulators chosen in the present study, $\frac{e}{D}$ ratio of 0.08 and non-dimensional turbulator thickness $\bar{e}=0.125$ provides the best geometric configuration with respect to better heat dissipation characteristics.

3. Based on effect of temperature on material properties, helicoidal cooling duct of circular cross section of $\bar{P}=1$ and $\bar{D}=0.66$ having turbulators ($\frac{e}{D}=0.08$ and $\bar{e}=0.125$) result in lower deformation and also reduces structural distortion.

4. It is found that cooling duct having buttress shaped grooved passage in the vicinity of the trailing edge result in better cooling of the gas turbine blade and also in turn produces lower structural deformation.

5. It is seen that an innovative helicoidal duct of circular cross section with $\bar{P}=1$ and $\bar{D}=0.66$ having turbulators ($\frac{e}{D}=0.08$ and $\bar{e}=0.125$) in the vicinity of leading edge and buttress shaped grooved passage in the vicinity of trailing edge provides an augmented convective area and good turbulence for better heat dissipation resulting in lower structural deformation.