

$$1) \int_0^{2\pi} \int_0^{\pi} \frac{e^{\cos \theta}}{\sin^3 \theta} \sin^2 \theta \, d\theta \, d\phi = \int_0^{2\pi} \int_0^{\pi} \frac{e^{\cos \theta}}{\sin \theta} \, d\theta \, d\phi$$

$$= \int_0^{2\pi} \left[-\frac{e^{\cos \theta}}{\cos \theta} \right]_0^{\pi} \, d\phi = \int_0^{2\pi} \frac{2}{\cos \theta} \, d\phi$$

$$= \int_0^{2\pi} \int_0^{\pi} \frac{2}{\cos \theta} \sin^2 \theta \, d\theta \, d\phi$$

$$= \int_0^{2\pi} \left[-\frac{2}{\sin \theta} \right]_0^{\pi} \, d\phi = \int_0^{2\pi} 0 \, d\phi = 0$$