STUDY GUIDE FOR QUIZ 3

ronomy 301

The quiz format follows that for the previous two quizzes.

Part A consists of 20 questions of the multiple choice or short answer variety. Part B has seven questions of which you are asked to attempt one.

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Part A

What is the Schwarzschild radius?

What are typical masses of a red, brown, and white dwarf? A stellar mass black hole? Jupiter (in solar masses)?

Are all neutron stars detected as pulsars?

How does the visible spectrum of Type Ia differ from a Type II supernova?

What is the pressure support in a white dwarf?

Why are neutron stars - though vey hot - not very luminous?

Can you locate common objects on a sketch of the Milky Way Galaxy?

Can you order common objects by mass and size?

What are the principal differences between globular and Galactic (open) clusters?

How do Population I and II differ?

What is the distance between Sun and center of the Galaxy?

How did Shapley estimate this distance?

What is the Local Group?

How did Hubble measure the distance to the Andromeda galaxy?

What is the Zone of Avoidance?

Why is the center of our Galaxy not visible at optical wavelengths?

Is the solar system older or younger than the Galaxy? The Universe?

Part B

What is a neutron star? A black hole? How are black holes detected and distinguished from neutron stars and white dwarfs?

Why are Cepheid variables so valuable in measuring distances within our Galaxy and to other galaxies? Why has the Hubble Space Telescope proved critical in measuring distances to other galaxies?

How do Population I and II differ? Discuss a model of the Galaxy's formation and evolution which accounts for the differences between the two populations.

What is the zone of avoidance? Do you expect all galaxies to show a zone of avoidance? Can a hot star appear red? Why is the Sun redder at dusk and dawn than at noon? Why are clouds white?

How will visual binaries appear if observed at very large distances? How are spectroscopic binaries identified? Why do visual binaries have such long periods?

What is the 21 cm line of neutral hydrogen? How is the 21 cm line used to measure the rotation speeds of distant galaxies? How does dark matter affect the rotation speed of a galaxy?

What are the differences between Type Ia and Type II supernovae? How are supernovae detected using a small telescope? Why may we have missed recent supernovae in the Milky Way?