___1) CCD is an abbreviation for:
   a. Charge-coupled device
   b. Cooled camera detector
   c. Camera collection device
   d. Cool chili dog

___2) CCDs use these devices to create color photographs:
   a. Light sensitive pixels
   b. Color filters
   c. Lenses
   d. Mirror

___3) The shutter speed describes which of these attributes of a camera
   a. How long the shutter is open
   b. The speed at which the shutter opens
   c. How much the cameraman shudders
   d. How long it takes to put shutters on your windows in case of a hurricane

___4) The f-stop is which of these:
   a. The focal length of the camera lens
   b. The time of exposure
   c. The ratio of the focal length of the lens and diameter of the diaphragm
   d. The number of pixels on the light detector

___5) The focal length of a camera is 50 mm. Its diaphragm has a diameter of 25 mm. What is its f-stop?
   a. f/2
   b. f/3
   c. f/0.5
   d. f/4

___6) In low-light conditions, should the f-stop be smaller or larger?
   a. Smaller
   b. Larger

___7) When focusing a camera, which of these variables (from the lens equation) do you change?
   a. Image distance
   b. Object distance
   c. Focal length
8) Which of these is not a reason that CCDs are better than film (i.e. which is these is not true?)
   a. CCDs can be reused, unlike film
   b. CCDs have a larger “format” and can image a bigger field than film
   c. CCDs’ images can be altered more easily than film images

9) When focusing on a near object with a camera, distant objects appear out of focus. What term describes this phenomenon?
   a. Circle of confusion
   b. Underexposure
   c. Overexposure
   d. Single-lens reflex

10) What is the depth of field?
    a. The optimal amount of light for a properly exposed picture
    b. The ratio of the diaphragm’s diameter and the lens’ focal length
    c. The range of object distances over which the image is reasonably sharp
    d. The image distance for which no image is formed

11) Which of these has the longer focal length?
    a. Telephoto lens
    b. Wide-angle lens

12) Single lens reflex describes:
    a. A medical condition concerning acid in the esophagus
    b. A camera for which you can view the picture before exposing the film/CCD
    c. A system of lenses used to zoom in on objects
    d. A lens used to take wide-angle photographs

13) Which of these parts of the human eye serves the same purpose as a camera’s diaphragm?
    a. Iris
    b. Fovea
    c. Cornea
    d. Ciliary muscles

14) Which of these parts of the human eye serves the same purpose as a camera’s film or CCD?
    a. Iris
    b. Retina
    c. Pupil
    d. Lens
15) The area on the back of the human eyeball where most light is focused is called (this is the area where the eyes detectors, rods & cones, are most densely packed):
   a. Fovea
   b. Lens
   c. Ciliary muscles
   d. Iris

16) The ciliary muscles:
   a. Change the shape of the eyeball
   b. Open and close the iris
   c. Change the focal length of the lens
   d. Change the diameter of the diaphragm

17) The nearpoint is:
   a. The closest point at which the eye can focus on an object
   b. The furthest point at which the eye can focus on an object
   c. The distance between the eye’s lens and retina
   d. The focal length of the eye’s lens

18) Farsightedness is a condition where the eyeball’s shape is:
   a. Too elongated
   b. Too short

19) Nearsightedness is a condition where a person cannot focus on
   a. Far objects
   b. Near object

20) The objective lens of a refracting telescope has a focal length of 50 cm. The eyepiece has a focal length of 1 cm. What is the magnification?
   a. -50
   b. -1/50
   c. 25
   d. -33

21) The interstellar medium is
   a. The space between stars
   b. A point in the early universe when stars did not exist
   c. The area between the Earth and Sun
   d. The inside of a star
   e. Sister Julia, Spiritual Advisor on Canal
22) Which of these temperatures best describes the condition of a star-forming cloud:
   a. 50 K
   b. 500 K
   c. 5000 K
   d. 50000 K

23) Which must be greater in order for collapse to occur and a star to form:
   a. Gravitational energy
   b. Thermal energy

24) Which of these is *not* a cause of forced collapse:
   a. Density waves
   b. Fragmentation
   c. Cloud-to-cloud collisions
   d. Supernovae shock waves

25) Why do star-forming cores appear dark at visible wavelengths?
   a. They have dust that obscures light from background stars
   b. The stars within these cores do not emit any radiation
   c. They’ve been painted black

26) Clumps of material outflowing along the rotation axis of a young star are called:
   a. Proplyds
   b. T Tauri stars
   c. Herbig Haro object
   d. Star-forming core

27) A protostar officially becomes a star when this occurs:
   a. Collapse onto the star ends
   b. Nuclear reactions begin inside the star
   c. Rotation of the star ceases
   d. A disk forms around the star

28) Which mass of star requires the least time to form?
   a. 0.1 solar masses
   b. 1 solar mass
   c. 2 solar masses
   d. 15 solar masses
29) A camera has a focal length to 50 mm. The diameter of the diaphragm is 25 mm. What is the f-stop?
   a. f/2
   b. f/4
   c. f/0.5
   d. f/1

30) A light meter reports that a camera setting of 1/250 seconds at f/5.6 will give a correct exposure. The photographer wishes to use f/11 to increase the depth of field. What should the shutter speed be?
   a. 0.033 s
   b. 0.015 s
   c. 0.078 s
   d. 0.008 s

31) A human eyeball is about 20.0 mm long, and the pupil has a maximum diameter of about 8.0 mm. What is the “speed” of this lens?
   a. f/2
   b. f/2.5
   c. f/3
   d. f/0.4

32) A person has a far point of 14 cm. What power glasses would correct this vision if the glasses were placed 2.0 cm from the eye?
   a. -8.3 D
   b. -10.1 D
   c. -28 D
   d. -2.2 D
33) What is the magnification of a magnifying glass with a focal length of 12 cm?
   a. 0.5  
   b. 2.1  
   c. 300  
   d. 24

34) What is the magnification of an astronomical telescope whose objective lens has a focal length of 76 cm and whose eyepiece has a focal length of 2.8 cm?
   a. -212.8  
   b. -27  
   c. -0.04  
   d. -2.7

35) You are using Test version A. Bubble “A” for this question.