**ANSWERS: CHAPTER 31**

**MATCHING**

1. g  3. d  5. h  7. f  
2. e  4. c  6. a  8. b

**IMAGE LABELING**

1. amniocentesis  
2. chorionic villus sampling (CVS)  
3. culdocentesis  
4a. vaginal speculum  
4b. tenaculum  
4c. ring forceps  
4d. uterine sound  
4e. plastic catheter enclosed in plastic sleeve with the malleable obturator withdrawn slightly from the catheter

**MULTIPLE CHOICE**

1. c  6. a  11. b  16. c  
2. b  7. c  12. a  17. b  
3. c  8. b  13. c  18. b  
4. a  9. a  14. b  19. a  
5. d  10. d  15. d  20. b

**FILL-IN-THE-BLANK**

1. percutaneous umbilical blood sampling (PUBS)  
2a. 2.5  
2b. multiple fetuses  
3. 9th and 12th week  
4a. Alpha-fetoprotein  
4b. liver  
5. fetal maturity  
6. 6  
7. tissue  
8a. guide  
8b. automated  
9. transmyometrial  
10. therapeutic  
11. PID  
12a. highest  
12b. minimize  
13a. accuracy  
13b. early genetic diagnosis  
14. ovulation  
15. blue  
16. fetal therapy  
17a. liver  
17b. skin  
18. amniocentesis  
19a. 10 and 12  
19b. 8 and 10  
20. hysterosonosalpingography

**SHORT ANSWER**

1. Maternal anxiety, maternal age, abnormal maternal serum α-fetoprotein (MSAFP) screening results, women who have previously delivered children with chromosomal defects or metabolic disorders, parental genetic disorder carriers, and abnormal sonographic findings are all valid reasons for submitting to amniocentesis testing.

2. a. Number of fetuses, fetal position, and viability;  
b. amniotic fluid volume (normal, decreased, or increased);  
c. placental location;  
d. gestational age;  
e. assessment of the following anatomical structures: cerebral ventricles, fetal heart (four-chamber view), stomach, urinary bladder, umbilical cord insertion, number of cord vessels, kidneys, spinal column, and limbs;  
f. location of the optimal fluid pocket for amniocentesis;  
g. evaluation of the fetal heart rate before and after the procedure.

3. Indigo carmine dye is entered into a gestational sac following amniotic fluid removal to tint the fluid a bluish color during amniocentesis. This provides verification that the same sac was not entered during the second retrieval.

4. Maternal cells can contaminate the amniocentesis specimen. Therefore, it is recommended to discard the first few cells that are frequently collected as the needle enters the maternal abdomen.

5. Hysterosonosalpingography avoids radiation exposure, there are no allergic reactions to iodinated contrast media as is possible with radiology procedures, general anesthesia is avoided, and it may be performed as an outpatient procedure.

**IMAGE EVALUATION/PATHOLOGY**

1. This vaginal ultrasound scan demonstrates the target area for chorionic villus sampling (open arrows).

2. ECC (exocoelomic cavity) offers fluid for testing and processing for investigation of early fetal physiology and pathophysiology. Coelocentesis is not favored over amniocentesis because it is difficult to culture coelomic cells and there is a concern regarding the safety of the procedure.

3. Ovulation induction produced this quadruplet pregnancy. Multifetal pregnancy reduction will reduce the number of embryos to improve survival for the remaining ones.
4. This mother did, in fact, request routine screening lab tests, known as the triple test or triple screen. The results demonstrated a markedly elevated level of serum alpha-fetoprotein, which led to a sonographic examination of the fetus. The cystic (hypoechoic) malformation at the fetal spine was diagnosed as a myelomeningocele (arrow) extending posteriorly from the spine (Sp). A linear transducer produced the image.

**CASE STUDY**

1. The multiplanar images demonstrate that Sally had a T-shape IUCD placed at her postpartum visit.

2. Image A clearly displays ovarian enlargement using endovaginal sonography. Ovarian hyperstimulation is apparent. Power Doppler in image B and 3-D in image C verify the diagnosis.