

RSPT 1210 Self-Assessment – Module A

1. The union of the egg and sperm is called **FERTILIZATION**.
2. How do we refer to the developing organism during the three stages of growth and development?
 - A. Stage I: **ZYGOTE**
 - B. Stage II: **EMBRYO**
 - C. Stage III: **FETUS**
3. Which stage of growth & development is the organism most susceptible to the effects of smoke, alcoholism and drugs? **FIRST TRIMESTER**
4. Describe the time intervals for each of the following:
 - A. Neonate: **DELIVERY THROUGH FIRST MONTH OF LIFE**
 - B. Infant: **ONE MONTH TO ONE YEAR**
 - C. Child: **ABOVE ONE YEAR**
5. The fertilized ovum (zygote) travels through the fallopian tubes and enters the uterus on the **4TH TO 5TH** day.
6. The trophoblast develops into the **PLACENTA AND RELATED STRUCTURES**.
7. The embryoblast develops into the **FETUS**.
8. The embryoblast develops into three germ layers. Name the three germ layers.
 - A. **ECTODERM**
 - B. **ENDODERM**
 - C. **MESODERM**
9. The heart arises from which germ layer? **MESODERM**
10. The lungs arise from which germ layer? **ENDODERM**

11. Name the five periods of pulmonary development and the time period associated with each
- A. **EMBRYONAL STAGE – 26 DAYS TO 6 WEEKS**
 - B. **PSEUDOGLANDULAR STAGE – 6 WEEKS TO 16 WEEKS**
 - C. **CANALICULAR STAGE – 16 WEEKS TO 26 WEEKS**
 - D. **SACCULAR STAGE – 26 WEEKS TO 36 WEEKS**
 - E. **ALVEOLAR STAGE – 36 WEEKS TO BIRTH**
12. Branching of the bronchi and bronchioles, appearance of smooth muscle and cartilage, and the appearance of goblet cells and submucosal glands are seen during which period of pulmonary development? **PSEUDOGLANDULAR**
13. The lung bud appears at **26TH** day of gestation.
14. The number of alveoli continues to grow until age **8**.
15. Surfactant is first seen at how many weeks gestation? **24**
16. What is erythroblastosis fetalis?
Erythroblastosis fetalis develops in an unborn infant because the mother produces antibodies that attack the fetus' red blood cells. This happens when the mom and the baby have different blood types.
17. How much lung fluid is found at term? **20 – 30 mL/kg**
18. Name four mechanisms by which the lung fluid is expelled at birth
- A. **SQUEEZING OF THE THORAX WITH VAGINAL DELIVERY**
 - B. **ABSORBED BY THE LYMPHATICS**
 - C. **ABSORBED BY VASCULATURE**
 - D. **EVAPORATION**
19. Babies who are born with large amount of lung fluid develop a condition called **TRANSIENT TACHYPNEA OF THE NEWBORN (TTN)**.
20. Describe the composition of the umbilical cord. **TWO ARTERIES, ONE VEIN, AND WHARTON'S JELLY.**
21. Define the amnion. **THE SAC THAT SURROUNDS THE GROWING FETUS.**
22. How much amniotic fluid is normally found in the amnion? **1 LITER**
23. Where is there a higher resistance to blood flow
- A. Placenta
 - B. **Developing lungs**

24. The umbilical vein carries _____ than the umbilical artery
- A. a higher oxygen concentration
 - B. a lower oxygen concentration
25. Name the three shunts found in fetal circulation
- A. **DUCTUS VENOSUS**
 - B. **DUCTUS ARTERIOSUS**
 - C. **FORAMEN OVALE**
26. What % of blood flow travels to the lungs during fetal development? **10%**
27. Which of the following is a high pressure system in the developing fetus?
- A. Systemic vasculature
 - B. Pulmonary vasculature
28. Where is pre-ductal blood found? **RIGHT ARM, RIGHT UPPER CHEST, RIGHT SCALP**
29. Where is post-ductal blood found? **UMBILICAL ARTERY, FEET AND LEGS**
30. Blood drawn from the left arm of a newborn is referred to as:
- A. Pre-ductal blood
 - B. Post-ductal blood
 - C. Variable blood
 - D. Mixed-Venous blood

31. You are asked to draw blood from the umbilical artery and the right arm to determine a patent ductus arteriosus. The umbilical artery PaO₂ is 40 and the right radial PaO₂ is 77. This would indicate to you that there is:
- A. **Right to left shunt**
 - B. Left to right shunt
 - C. No shunt; this is normal
 - D. You obtained a variable blood sample.
32. Which germ layer does the respiratory system arise from?
- A. **ENDODERM**
33. Where is the only communication found between mother and fetus? **PLACENTA**
34. What is the reason for giving steroids to a mother prior to the birth of a fetus?
STIMULATE SURFACTANT PRODUCTION FROM ALVEOLAR TYPE II CELLS