

PLEASE ENTER YOUR NAME BEFORE YOU START THIS TEST \_\_\_\_\_

HST-071 FINAL EXAMINATION

- 1) You are asked to see a young male with the complaint of "no testicles." From further history and physical examination, you decide that your patient has bilateral cryptorchidism. With regard to puberty and sex drive which of the following is true ?
- A. early puberty, hyperactive sex drive
  - B. early puberty, hypoactive sex drive
  - C. late puberty, normal sex drive
  - D. regular puberty, normal sex drive
  - E. no puberty, no sex drive
- 2) In the patient above with bilateral cryptorchidism, he has a
- A. decreased risk of testicular cancer
  - B. decreased risk of prostate cancer
  - C. increased risk of prostate cancer
  - D. increased risk of testicular cancer
  - E. unchanged risk of either prostate or testicular cancer
- 3) Sperm is made by germ cells in the testes. The passage of sperm from point of origin to urethra is as follows:
- A. rete testis, seminiferous tubules, epididymis, vas deferens
  - B. seminiferous tubules, rete testis, epididymis, vas deferens
  - C. epididymis, vas deferens, rete testis, seminiferous tubules
  - D. rete testis, epididymis, vas deferens, seminiferous tubules
  - E. seminiferous tubules, epididymis, vas deferens, rete testis
- 4) Patients suffering from benign prostate hypertrophy (BPH) suffer from having an enlarged prostate. The treatment of choice is Proscar, which is a 5 $\alpha$ -reductase inhibitor. This enzyme is important in
- A. the conversion of androgens to estrogens
  - B. cholesterol to testosterone
  - C. testosterone to dihydrotestosterone
  - D. dihydrotestosterone to androstenedione
  - E. estrone to estrinol

- 5) All of the following are risk factors warranting prenatal diagnosis, **except**:
- A. maternal age >35 yrs
  - B. family hx of neural tube defects
  - C. history of two previous miscarriages
  - D. family history of chromosome abnormality
  - E. either parent with balanced translocation carrier
- 6) All of the following are true about alpha-feto-protein (AFP), **except**:
- A. has a known function in the fetus
  - B. can first be detected in maternal serum at 15-17 weeks
  - C. Decreased AFP levels associated with trisomy 21, trisomy 18, IUGR (intrauterine growth retardation), and incorrect dating
  - D. first detectable in the fetus by 4 wks gestation
  - E. neural tube defects, multiple pregnancy, abdominal wall defects, and incorrect dating are associated with elevated levels.
- 7) The Down syndrome (trisomy 21) occurs in 1/600 births in the population. It is associated with congenital heart disease, thyroid dysfunction, respiratory problems, and early onset Alzheimer's disease. The most important risk factor is:
- A. use of DES when mother was in utero
  - B. use of tobacco while pregnant
  - C. listening to classic rock
  - D. use of alcohol while pregnant
  - E. maternal age >35 yrs at time of pregnancy
- 8) The major risk of obstetrical forceps are
- A. excess cost for the delivery
  - B. Damage due to shear stress caused by compression of the head
  - C. Damage due to shear stress caused by rotation of the fetal head
  - D. Soft tissue injury
- 9) The pacemaker for the uterus is located
- A. near the right utero-ovarian artery anastomosis
  - B. In the cervix
  - C. At the fundus of the uterus
  - D. At the post synaptic ganglion known as Frankenhauser's Ganglion
- 10) That part of the labor curve where little dilation is noted
- A. Phase of maximum slope
  - B. Latent phase
  - C. Second stage
  - D. Third stage
  - E. Active phase

- 11) Human Papilloma Virus (HPV) is a common genital infection in both men and women causing genital warts. 12-24 million people in the US between the ages of 15-49 are infected with HPV. HPV infection increases the risk of which of the following:
- A. ovarian cancer
  - B. endometrial cancer
  - C. vaginosis
  - D. cervical cancer
  - E. vulvar cancer
- 12) Effective "morning after contraception" can be achieved by administering
- A. 2 birth control pills 12 hours apart
  - B. Douching with ½% acetic acid
  - C. Inserting an IUD 5 days after intercourse
  - D. None of the above
- 13) The definition of hypertension in pregnancy is as follows:
- A. BP > 125/50 in 1st trimester or BP > 125/85 in 3rd trimester.
  - B. BP > 150/90 prior to pregnancy
  - C. BP > 120/80 at any time during pregnancy
  - D. BP change of > 10 mmHg between both arms during pregnancy
  - E. none of the above
- 14) Eclampsia is essentially pre-eclampsia with seizures. Pre-Eclampsia is associated with all of the following **except**:
- A. hypertension
  - B. proteinuria
  - C. peripheral edema
  - D. elevated uric acid and decreased platelets
  - E. decreased hematocrit
- 15) Risk factors for the development of pre-eclampsia include all of the following except:
- A. very young or very old pregnant women with their first pregnancies
  - B. family history
  - C. second pregnancy
  - D. any pregnancy with a new father
  - E. "excess placenta" state --> hydatiform mole, twin pregnancy, etc.
- 16) Which of the following statements about pre-eclampsia/eclampsia is **not** true?
- A. Predisposing medical conditions include hypertension and diabetes mellitus
  - B. In large studies, aspirin has proven to be of little value decreasing risk
  - C. A vicious cycle of fibrin deposition -> platelet aggregation -> diffuse endothelial injury occurs in all organs leading to the systemic manifestations.
  - D. Earliest maternal changes include activation of platelets, endothelial cell activation, and decreased sensitivity to pressors (angiotensin 11)
  - E. Risk to fetus includes low birth weight and placental infarcts
- 17) Amenorrhea can be either primary or secondary depending on whether the patient has had menses in the past. Familial hypogonadotropic hypogonadism (Kallmann's syndrome) is a familial disorder characterized by hyposmia, various midline defects, cleft lip or palate, and sexual immaturity due to low gonadotropin levels. This would be classified as

- A. primary amenorrhea
- B. secondary amenorrhea
- C. tertiary amenorrhea
- D. no problem with menses
- E. none of the above

18) A 45 year man presents with decreased libido and impotency. A prolactin level was elevated at 49 and a Head CT was normal. Further work up revealed that this patient suffered from left temporal lobe epilepsy and was treated with tegretol with full recovery. The mechanism of left temporal lobe epilepsy leading to these symptoms is which one of the following:

- A. alters the hypothalamic GNRH pulse generator
- B. inhibits LH and FSH release by pituitary
- C. interacts with arcuate nucleus to increase prolactin and decrease GNRH
- D. decreases ability to convert dihydroandrostenedione to testosterone

19) Combined glucocorticoid and mineralocorticoid deficiency occurs in several inherited disorders characterized by diffuse bilateral enlargement of the adrenal cortex collectively termed "congenital adrenal hyperplasia." The most common form of CA-H results from defective 21-hydroxylation, ultimately leading to virilization (female pseudohermaphroditism, male precocious puberty). This disruption in the pathway of steroidogenesis results in what hormonal disorder ?

- A. increased glucocorticoids and mineralocorticoid
- B. increased mineralocorticoids and decreased glucocorticoids.
- C. normal adrenal steroid levels
- D. decreased progesterone and 17-hydroxyprogesterone
- F. decreased adrenal steroids and increased progesterone and 17,OH-progesterone

20) Polycystic Ovary Syndrome (PCO) is defined as having hyperandrogenism with chronic anovulation in women without specific underlying diseases of the adrenal or pituitary glands. Which of the following statements about PCO is **false** :

- A. obesity is a common, but not universal characteristic of patients of PCO
- B. LH tends to be decreased and FSH increased
- C. is characterized by increased insulin resistance
- D. abnormality of ovarian androgen secretion
- E. clomiphene citrate (an anti-estrogen) is a common treatment

21) Increased temperatures (hyperthermia) is a potent anti-mitotic teratogenic agent. It is associated with activation of which of the following proteins which function to decrease cellular division:

- A. heat shock proteins
- B. transport proteins
- C. heat-labile proteins
- E. structural proteins

22) The teratogenic effects of increased temperatures on the growing fetus includes microcephaly, spinal defects, and limb reductions. The higher the temperature, the shorter the time period necessary to induce defects. The lower temperature limit and associated minimum duration of time at that temperature to induce developmental defects is which one of the following:

- A. 102 degrees F and 36 hrs
- B. 101 degrees F and 52 hrs
- C. 100 degrees F and 7 days

- D. 101.5 degrees F and 48 hrs
  - E. 103 degrees and 10 hrs
- 23) There have been many concerns of damage to the fetus with a variety of environmental energy sources. Which one of the following energy sources has been shown to be damaging to the growing fetus (either mutagenic or teratogenic) at operating doses/conditions:
- A. microwaves
  - B. ultrasound
  - C. computer terminals
  - D. chronic exposure to 60 Hz fields (ie. power lines, electric blanket, etc)
  - E. none of the above
- 24) Ionizing radiation at doses of 100-200 RADs have been shown to be dangerous to the fetus within the first 41 days of life (days 9-41 is the period of organogenesis). Doses used in medicine for various methods of imaging are mostly in the MRAD to 1-2 RAD range (much less than the 100-200 RAD level. Practicing physicians try to stay under what RAD exposure to the fetus per pregnancy ?
- A. 50 RAD
  - B. 25 RAD
  - C. 10 RAD
  - D. 2 RAD
  - F. 500 MRAD
- 25) The adverse affects of using an IUD for contraception include uterine pregnancy, ectopic pregnancy, and pelvic inflammatory disease. The normal risk of ectopic pregnancy in the population is 1/100 pregnancies. With the IUD, the risk increases to:
- A. 3-9%
  - B. 15-20%
  - C. 40-50%
  - D. 80%
- 26) Of the many types of contraception used today, the cheapest and most popular type used worldwide is which of the following:
- A. DALKON shield
  - B. progestasert IUD
  - C. Lippes loop
  - D. copper-T IUD
  - E. Oral Contraceptives

- 27) An adverse affect of the intrauterine device for contraception is an intrauterine pregnancy. One of the complications of an intrauterine pregnancy includes an increased prematurity rate. That can be up to:
- A. 5 times the normal prematurity rate.
  - B. 2-4 times the normal prematurity rate.
  - C. 10 times the normal prematurity rate.
  - D. 1.1-1.5 times the normal rate.
- 28) Mechanisms of oral-contraception action include all of the following except:
- A. suppression of hypothalamic GNRH
  - B. suppression of pituitary LH and FSH
  - C. induction of an unfavorable cervical mucus which impair sperms transport.
  - D. induce anovulation as a result of decreased FSH and LH
  - E. induce endometrial hypertrophy making it unfavorable for implantation.
- 29) Absolute contraindications to oral contraceptive use include all of the following except:
- A. dysfunctional uterine bleeding
  - B. history of coronary artery disease, or previous myocardial ischemia
  - C. impaired LFT's
  - D. smokers > 35 yrs of age
  - E. patients with Factor VIII deficiency
- 30) One of the benefits of oral contraceptives is that of the progesterone effect to desensitize the endometrium to estrogen. This has the ultimate benefit of-
- A. decreasing the risk of endometrial cancer
  - B. decreasing the risk of ovarian cancer
  - C. decreasing the risk of breast cancer
  - D. increasing blood loss during menses
- 31) A 21 year female presents with the complaint of inability to become pregnant. Questioning reveals a history of oligomenorrhea since menarche. On exam, you note a thin woman with slight hair on her chest and above her upper lip, and acne on her face. Of these listed, what would the next step in diagnosis be?
- A. CAT scan of her head
  - B. checking urine for 5-HIAA (a serotonin metabolite)
  - C. imaging study of her ovaries
  - D. checking partner for causes of infertility
- 32) The Arias-Stella reaction is:
- A. a test of the cervical mucus to assure its quality for sperm penetration
  - B. describes the endometrial glandular changes in early pregnancy
  - C. a test for clue cells in bacterial vaginosis
  - D. a reaction patients get when they deliver without using analgesics

- 33) The use of ultrasound in the dating of high-risk pregnancies has been well proven. The most accurate ultrasound dating modality is:
- A. measurement of femur length
  - B. biparietal diameter measurement
  - C. joint space measurement
  - D. early crown-rump measurement
  - E. length of spine measurement
- 34) Anencephaly is the most common neural tube defect (1/1000). It occurs in female fetuses four times more often than in males, and is usually associated with an elevated alphafeto-protein. Ultrasound diagnosis is definitive, and can be made easily by:
- A. 18 wks gestation
  - B. 16 wks gestation
  - C. 14 wks gestation
  - D. 12 wks gestation
  - E. 6 wks gestation
- 35) The Fetal State is best evaluated by the Biophysical Profile which is a score of fetal activity. The fetus is evaluated by ultrasound for all of the following except:
- A. respiratory movements
  - B. symmetrical movements of upper and lower extremities
  - C. overall limb activity
  - D. muscle tone
  - E. amount of amniotic fluid
- 36) Drug abuse during pregnancy can be quite harmful for the fetus. Cocaine produces cerebral lesions in the fetus from vasoconstriction and/or hemorrhage. Other phenotypic effects of cocaine include all of the following except:
- A. abruptio placenta
  - B. growth retardation
  - C. pre-term delivery
  - D. limb deficiency and bowel atresia
  - E. Down's syndrome
- 37) Alcohol is also a drug having adverse effects on the fetus, including growth retardation, microcephaly, mental retardation and subtle craniofacial abnormalities. Which of the following about alcohol and its adverse effects is true?
- A. polymorphisms of alcohol dehydrogenase confer greater susceptibility to teratogenic effect.
  - B. alcohol does not cross the placenta - its metabolic products are the culprits
  - C. polymorphisms of acetaldehyde dehydrogenase produce increased tolerance for alcohol.
  - D. the dose-response relationship of alcohol and adverse outcome is not well established.

- 38) Which of the following about these teratogens and their period of greatest sensitivity is true?
- A. thalidomide: 34-50 days post-LMP
  - B. warfarin: 7 to 8 weeks
  - C. rubella: 20-60 days post LMP
  - D. DES: less than 24 weeks gestation
- 39) Nitabuch's layer performs what function?
- A. separates the endometrium and myometrium during pregnancy
  - B. separates chorion frondosum from the syncytiotrophoblast
  - C. separates syncytiotrophoblast from the endometrium
  - D. separates amniotic sac from the cytotrophoblast
- 40) Which of the following about the placenta and its delivery is false?
- A. placenta averages about 500 g at term
  - B. the placenta rarely is delivered in one piece
  - C. placenta needs to come out after birth
  - D. the uterus needs to contract to minimize blood lose from spiral arteries
  - E. about 1/2 of the fetal blood volume lies in the placenta
- 41) Intrapartum fetal assessment can be accomplished by electronic fetal monitoring, fetal blood sampling, Doppler flow studies, and ultrasound biophysical measurements. When monitoring fetal heart rate, what does the finding of late decelerations imply?
- A. utero-placental insufficiency
  - B. decreased oxygen delivery to the fetus
  - C. cord compression
  - D. all of the above
  - E. A and B only
- 42) Beat-to-beat variability is an important parameter in intrapartum fetal assessment. Decreased beat-to-beat variability implies what about fetal status?
- A. decreased cortical function
  - B. decreased oxygen delivery to the fetal heart
  - C. increased delivery of oxygen to maternal brain
  - D. none of the above
- 43) The functions of amniotic fluid include all of the following except:
- A. protection of the fetus from direct injury
  - B. maintenance of fetal temperature
  - C. allows free movements of the fetus
  - D. fluid reservoir for fetal fluid exchange
  - E. buffer the fetus from maternal toxins
- 44) The diagnosis of fetal hemolytic disease by amniotic fluid is to measure for bilirubin in the amniotic fluid (by checking the OD at 450 nm). The mechanism of Rh sensitization is:
- A. maternal antibody directed against fetal ABO grouping
  - B. maternal IgG against fetal D antigens which crosses placenta and induces fetal hemolysis
  - C. fetal antibodies against maternal D antigens inducing self-hemolysis
  - D. mechanism is unknown
- 45) Surfactant is a combination of phospholipids that has the characteristic of decreasing surface tension, thereby allowing alveoli to remain open with the infants first breath. When it is found that a fetus that needs to be delivered has immature lungs, what could be done?

- A. pray for time
- B. give the mother androgens to induce fetal lung maturity
- C. give the mother corticosteroids to induce fetal lung maturity
- D. give the mother estrogen to induce fetal lung maturity
- E. none of the above

46) Which of the following about amniotic fluid dynamics is not true?

- A. amniotic fluid turnover rate is about 4000 n-fl/day
- B. range of normal amniotic fluid levels is 700 - 200 ml
- C. 800 n-d/day of amniotic fluid is from fetal urine
- D. 200 ml/day of amniotic fluid is from fetal lung fluid

47) What is Asherman's syndrome?

- A. a consequence of pelvic inflammatory disease
- B. uncontrollable uterine contractions
- C. an ectopic pregnancy that implanted in the peritoneum
- D. endometriosis that causes infertility
- E. intrauterine adhesions often secondary to overly vigorous curettage

48) Laminaria Tents are used to dilate the cervix slowly and painlessly. They enlarge to 2-4 times their size once they absorb water. Which of the following is not true about using these?

- A. at one point, they were unsafe for use since they sometimes fell into the uterus and were difficult to remove.
- B. dilated cervix too far and too quickly causing scarring
- C. sometimes used as an abortifacient since as the cervix dilated, Prostaglandins were released that caused uterine contraction
- D. now synthetic since they are difficult to sterilize

49) Some of the late complications of a dilation and curettage include all of the following except:

- A. secondary infertility from infections
- B. ectopic pregnancy
- C. Rh sensitization
- D. increased risk of cancer
- F. prematurity from an incompetent cervix

50) The post-term pregnancy may confer added fetal risk because of

- A. Reduced amniotic fluid
- B. Reduced Wharton's Jelly
- C. Altered diffusion constant with hypoxia
- D. Cessation of fetal growth
- E. All of the above

- 51) Utero-placental insufficiency can be detected by fetal heart monitoring. Predisposing maternal conditions include which of the following:
- A. hypertension, either chronic or pregnancy induced
  - B. history of or current hepatitis
  - C. maternal overeating during pregnancy
  - D. taking anti-convulsants during pregnancy
- 52) The placenta is composed of two arteries and 1 umbilical vein. As you know, it is the infants only contact with the maternal circulation. During labor when the uterus contracts, what happens to these vessels?
- A. the arteries collapse, the vein does not
  - B. neither the arteries nor the vein collapses
  - C. the vein dilates resulting in increased venous return
  - D. just one artery and the single vein collapses
- 53) During pregnancy, which of the following is not true about maternal cardiovascular physiology?
- A. uterine blood flow increases by 500 ml/min
  - B. there are ECG changes that may resemble ischemia due to positional changes of the heart in the chest cavity
  - C. heart rate increases from an average of 70-->85
  - D. blood flow to skin increases 300-400 ml/min
  - E. blood flow to brain increases 150-250 ml/min
- 54) What happens to the kidneys during pregnancy?
- A. renal function remains unchanged, since there is great renal reserve for the increased blood flow
  - B. Creatinine, hematocrit, and the BUN all fall during pregnancy
  - C. GFR falls during pregnancy
  - D. renal plasma flow falls by .5 to 1 ml/min
- 55) Which of the following about the breast is not true?
- A. develop at 6-8 weeks of embryonic life
  - B. nipple has 50-75 lactiferous ducts which fuse to 5-8 openings
  - C. breast stroma contains fat, connective tissue, and muscle
  - D. the "milk line" is from the axilla down the anterior chest to the groin
  - E. milk ducts develop at birth
- 56) Which of the following hormones is the primary stimulus for milk production?
- A. estrogen
  - B. insulin
  - C. growth hormone
  - D. progesterone
  - E. prolactin

- 57) A pregnant woman with high PRL levels does not produce milk. Why?
- A. no stimulus like suckling
  - B. increased estrogen from placenta inhibits milk production
  - C. elevated dopamine levels during pregnancy from placenta
  - D. none of the above
- 58) In the non-nursing female, PRL levels fall back to normal in about how many weeks?
- A. 1 day
  - B. 1 week
  - C. 4-6 weeks
  - D. 24 weeks
- 59) The increased cardiac output required of pregnant women makes patients with underlying heart disease at increased risk for mortality and morbidity. Which one of the following cardiac diseases carries the highest mortality with pregnancy and is a contraindication to becoming pregnant?
- A. Atrial septa defect
  - B. corrected Tetralogy of Fallot
  - C. Eisenmenger's syndrome
  - D. Patent ductus arteriosus
- 60) Diabetes during pregnancy increases both maternal and fetal morbidity. Which of the following can be some of the consequences to the fetus of a diabetic mother?
- A. macrosomia
  - B. hypoglycemia (esp within the first day of delivery)
  - C. congenital anomalies
  - D. respiratory distress syndrome
  - E. all of the above
- 61) During pregnancy, there are many maternal changes in the respiratory system. These include increased minute ventilation and increased tidal volume. Why do pregnant women often feel short of breath?
- A. they feel short of breath because they are always somewhat hypoxic
  - B. from a progesterone effect which results in tachypnea
  - C. from the increased cardiac output and decreased capillary transit time
  - D. because of congestive heart failure in patients that can't increase their cardiac output
- 62) A finding of sugar in the urine of a pregnant woman does not always mean diabetes. In fact the most common cause of having glycosuria is what?
- A. increased glucose intake
  - B. from high GFR
  - C. fetal glucose production
  - D. estrogen effect during pregnancy
  - E. none of the above

- 63) Estrogen increases the synthesis of many substances by the liver. Which of the following is true about estrogen effects during pregnancy?
- A. increased coagulation products --> hypercoagulable state
  - B. increased thyroid binding globulin
  - C. increased total T4, but normal free T4 levels
  - D. all of the above
- 64) A woman laying on her back with a gravid uterus can decrease her cardiac output from decreased venous return. How much can cardiac output be decreased?
- A. 3%
  - B. 30%
  - C. 90%
  - D. none of the above
- 65) A woman's breast milk can contain which of the following?
- A. immune cells
  - B. IgA
  - C. viruses (like HIV)
  - D. all of the above
- 66) Which of the following about breasts and development is not true?
- A. in pre-pubertal period, 1' and 2' ducts grow in proportion to body
  - B. during puberty, there is extensive branching of the ducts
  - C. estrogen induces sprouting of the ducts
  - D. progesterone induces lobule formation
  - G. breasts continue to grow until menopause
- 67) Abnormal "second invasion" of trophoblast is implicated in the etiology of
- A. Gestational diabetes
  - B. Osteoporosis in the fetal skull
  - C. Dysmenorrhea
  - D. Ectopic pregnancy
  - E. Pregnancy induced hypertension
- 68) Magnesium sulfate sulfate may be used to treat this component of eclampsia/pre-eclampsia
- A. low platelet count
  - B. siezures
  - C. hypertension
  - D. proteinuria
  - E. edema of the face
- 69) The very premature infant is at **greatest** risk of death from
- A. Necrotizing enterocolitis
  - B. Liver failure
  - C. Respiratory distress syndrome
  - D. Pancreatic failure
  - E. Hypothermia

- 70) Which of the following is **not** a test of fetal maturity ?
- A. DSPC (Di-saturated phosphatidyl choline)
  - B. FLM (Fetal lung maturity test)
  - C. Amniotic fluid creatinine
  - D. L/S (Lecithin/Sphingomyelin) ratio
  - E. Alpha-fetal protein
- 70) Fibroids (leiomyomata) may be found **least** likely in
- A. The corpus of the uterus
  - B. The cervix
  - C. The ovary
  - D. The inferior vena cava
  - E. The abdominal wall
- 71) The ureter may be found
- A. posterior to the uterus running in the cul-de-sac
  - B. 1-2 cm lateral to the edge of the cervix at the level of the uterine arteries
  - C. anterior to the uterine artery
  - D. Indenting the left ovarian artery 3 cm distal to the ligament of Jacob
  - E. Entering the bladder at the hilus
- 72) Estrogenic compounds include all of the following **EXCEPT**
- A. Soy protein
  - B. Digitalis
  - C. DES
  - D. Spironolactone
  - E. Gumma root extract
- 73) Adenomyosis is histologically identical to:
- A. A cystadenoma
  - B. Muroid material
  - C. Endometriosis
  - D. Vaginal adenosis
  - E. Endometrial dysplasia
- 75) Which one of the following is **not** amongst the top three causes of infertility in males?
- A. testicular failure
  - B. semen disorders
  - C. varicocele
  - D. idiopathic
- 76) In work up of the infertile couple, a semen analysis is often performed where physical characteristics are assessed including volume, viscosity, time to liquification, and microscopic assessments. The major parameters studied include which of the following:
- A. concentration per cc
  - B. initial motility
  - C. morphology
  - D. all of the above
- 77) Luteal phase deficiency is a condition where ovulation occurs but the progesterone effects on the endometrium lag behind the orderly and sequential changes characteristic of the glands and the stroma. The causes include all of the following except:

- A. age
- B. thyroid disease
- C. diabetes
- D. prolactin disorders
- E. androgen disorders

78) In Vitro Fertilization (IVF) was initially indicated when the fallopian tubes were absent or damaged. Indications were then extended to male factor, endometriosis and unexplained infertility. Today, IVF is utilized for all causes of infertility where more conventional treatments have failed. Approximately how many babies worldwide have been born through IVF?

- A. 1,000
- B. 100,000
- C. 1,000,000
- D. none of the above

79) Two substances from the fetal testes are essential for male development. What are they?

- A. testosterone and dihydroandrostenedione
- B. dihydroandrostenedione and testes related factor
- C. estrogen and testosterone
- D. Mullerian Inhibiting factor and testosterone
- E. Mullerian Inhibiting factor and testes related factor

80) The first morphologic sign of sexual dimorphism in the gonads is the development of the primordial Sertoli cells and their aggregation into spermatogenic cords in the fetal testis. When does this occur during development?

- A. 2-3 weeks
- B. 6-7 weeks
- C. 15-18 weeks
- D. 27-30 weeks

81) The mean age for menopause is 51.9 years. This mean age has not changed since antiquity. Which of the following is not true about menopause and its diagnosis?

- A. FSH and LH increase (FSH > 40 mIU/cc)
- B. decreased estrogen
- C. no more ovulation from ovaries
- D. menopausal symptoms occur largely from estrogen withdrawal
- E. ovaries are endocrinologically inactive

82) 10-12 hours after the LH surge, ovulation occurs during the menstrual cycle. Which of the following hormones rise just prior to the LH surge?

- A. progesterone
- B. estrogen
- C. FSH
- D. PRL
- E. none of the above

- 83) The hypothalamus is the pulse generator releasing GNRH in packets at a pre-set frequency. Which of the following is **not** true about GNRH release?
- A. affected by psychologic stress, anorexia, etc.
  - B. inhibited by endogenous opiates (ie beta-endorphins)
  - C. unaffected by dopamine
  - D. under negative feedback by estrogen, androgens, progesterone, and inhibin
- 84) At time of menopause, women have a 3-5 year period of accelerated bone loss which can be inhibited by estrogen therapy. All of the following are risk factors for accelerated bone loss **except**:
- A. Caucasian/Asian heritage
  - B. positive family history
  - C. small build
  - D. alcohol and tobacco use
  - E. active life style
- 85) During the menstrual cycle, estrogen functions to build up the endometrium. Which of the following hormones inhibits the action of estrogen on the endometrium (during the second half of the menstrual cycle) ?
- A. human chorionic gonadotropin
  - B. progesterone
  - C. FSH
  - D. prolactin
  - E. none of the above
- 86) A substance that can be detected in the vagina which may predict premature labor is
- A. beta galactosidase
  - B. onco-fetal fibronectin
  - C. excess amounts of glycogen in the mucosa
  - D. ATP-ase
  - E. Aluminum carbonate crystals
- 87) Progesterone has which of the following effects on the uterus during pregnancy?
- A. increases number of gap junctions in myometrium, but keeps them closed
  - B. decreases number of gap junctions, keeps them closed, and may decrease amount of free  $Ca^{++}$ .
  - C. increases gap junctions, keeps them open, and increases amount of free  $Ca^{++}$ ,
  - D. has no effect on the uterus during pregnancy.
- 88) The cervix has different functions at different times during pregnancy. It acts as a barrier, holding the products of conception inside the uterus; and it opens at the appropriate time, allowing evacuation of the uterine contents. Which of the following about the cervix is **not** true?
- A. primarily consists of collagen (types I and III)
  - B. becomes soft and cervical collagen degrades just prior to delivery
  - C. as cervix effaces (dilates and thins out just prior to delivery), the external cervical os opens before the internal cervical os
  - D. there is an increased incidence of incompetent cervix in women exposed to DES in utero
- 89) Which of the following is the initial signal for labor?
- A. glucocorticoids (as it is in sheep)
  - B. estrogen withdrawal
  - C. magnesium
  - D. Prostaglandins

F. the initial signal for labor remains yet unknown.

90) 6-10% of all births are pre-term infants. This means that they are born at <37 weeks gestation, and/or that they are <2500 g. The risk factors for preterm infants include which of the following?

- A. past history of preterm delivery
- B. cervical trauma (D&C, cone biopsy)
- C. uterine anomaly
- D. age <20, or >40 years.
- E. all of the above

91) Which of the following substances are given in an attempt to extend the pregnancy?

- A. beta-2-mimetics and magnesium
- B. alpha-2 agonizes and manganese
- C. beta-1 antagonists and mulberry seeds
- D. beta-4 antagonists and metallica

92) Which of the following statements is **not** true about labor and delivery?

- A. most patients perceive about 50% of all of their contractions
- B. oxytocin receptors increase in pregnancy
- C. Prostaglandins certainly play a role in labor
- D. RU486 (progesterone antagonist) increases spontaneous uterine contractions and amplifies the effect of Prostaglandins.
- E. post-menopausal women with ovaries that are hormonally inactive can still carry a pregnancy to term.

93) During the menstrual cycle, this hormone influences the theca compartment of the ovary and is involved primarily with androgen synthesis:

- A. FSH
- B. LH
- C. estrogen
- D. progesterone
- E. none of the above

- 94) In the assessment of a newborn infant, the APGAR score assesses all of the following parameters **except**:
- A. heart rate
  - B. respiratory effort
  - C. muscle tone
  - D. newborn reflexes
  - E. skin color and irritability
- 95) In the healthy fetus, what percentage of the cardiac output goes to the placenta?
- A. 1%
  - B. 5%
  - C. 25%
  - D. 80%
  - E. none of the above
- 96) Primary carcinomas of the vagina are largely epidermoid (around 75%), and the peak age of women with the disease is between age 60 and 70. However, young women (ages 15-35) exposed to this agent in utero may have an increased incidence of clear-cell adenocarcinoma of the vagina:
- A. MIH
  - B. TDF
  - C. SRY
  - D. DES
- 97) Currently one of the most promising areas for investigation into the etiology of PIH
- A. Aldosterone metabolism
  - B. Nitric oxide
  - C. Sodium intake during pregnancy
  - D. Calcium ingestion
  - E. Magnesium sulfate
- 98) During the menstrual cycle, high levels of estrogen stimulates the granulosa cells to synthesize an LH receptor. With LH, the granulosa cells then are induced to synthesize an LDL receptor which allows for the uptake of cholesterol. This is important for the synthesis of what hormone by the granulosa cells?
- A. estrogen
  - B. testosterone
  - C. progesterone
  - D. androstenedione
- 99) Premarin is often used in post-menopausal women to decrease bone loss. The progesterone portion of this pill decreases the risk of endometrial cancer from unopposed estrogen stimulation. What primary effect does the estrogen portion have on cholesterol metabolism?
- A. decrease HDL levels
  - B. increase LDL levels
  - C. increase HDL levels
  - D. decrease LDL levels
  - E. none of the above

100) Which of the following is **not** true about post-menopausal symptoms?

- A. hot flushes go away with time
- B. the earlier one enters menopause, the more likely she is to have hot flushes
- C. the more rapidly menopause occurs, the more likely she is to have hot flushes
- D. during the symptom, there is no objective temperature change measurable
- F. symptoms are a result of estrogen withdrawal

***Please remember to write your name on the top of page one!***

**GOOD LUCK ...I wish you all health, happiness and successful careers**