

PTS 3a Mock SBA Series 2021

Paper 1- [Questions]- Version 3



Examination instructions

- Time allocated for examination: **2 hours 30 minutes**.
- You are **not permitted** to leave the examination hall in the first **90 minutes**.
- Please write your **student number** at the top of the answers page.
- You are permitted to use a Sheffield University approved **calculator** should you wish.
- The use of mobile phones or other **electronic devices is strictly prohibited** in this exam and should be handed in or switched off for the duration of the exam.
- This examination is **not negatively marked**.
- Please complete all **100 questions** provided.
- The paper consists of **100 marks** in total.

Disclaimer:

The following paper has been **written for students by students** and **bears no reflection on the real exam**. This is a **learning tool** that has **not been reviewed by the University of Sheffield** and therefore the **use of this paper** for learning is **at the student's discretion**.

Please **do not share** this document on **google drives** or **directly to future 3a students**, this takes away from their opportunity to complete the mock SBA in the run up to their exams when it has maximal impact as a revision resource. **This mock paper will be edited, updated and repeated in future years**. Thank you.

Chief Exam Editor

Andrew Maud

SBA Question Contributors

Ella Kulman

Katharine Meadows

Qaiys Qaoud

Charlotte Pickavance

Hannah Lunt

Natalie Menic

Bryony Cushen

Melanie Coulson

Sally Mather

Emma Willian

[Page left intentionally blank]

[Question paper begins on the following page]

1. An 18-month old boy is brought into A+E by his mum. His mum seems very worried and says that over the past 7 days he has had bloody diarrhoea and just hasn't seemed himself. She thought it might just be a little tummy bug but she is getting increasingly worried as it just doesn't seem to be getting any better. The mum reports no recent travel history. You request a stool culture and some blood tests. The bloods show an AKI and thrombocytopenia. What else might the blood tests show for this boy?

- A. Erythrocytosis.
- B. Low WCC.
- C. Normocytic anaemia.
- D. Raised ALP.
- E. Raised TSH.

2. A 15-year-old girl presents to the GP complaining of a 5-day history of sore throat and headache. She denies any diarrhoea or vomiting. On further questioning, she tells you that she went to a house party last weekend where a few of her friends had a bit of a cough and she wonders if it could be from that. You decide to treat her for a URTI and prescribe her some amoxicillin. The patient has no known drug allergies. 2 days later the girl comes back to the GP complaining of a widespread itchy rash. What is the most likely cause of this?

- A. She has a new penicillin allergy.
- B. She has contact dermatitis.
- C. She has infectious mononucleosis.
- D. She has shingles.
- E. She is having an anaphylactic reaction

3. When are children vaccinated against Rubella?

- A. 1 year and 3 years old.
- B. 12 weeks and 16 weeks.
- C. 2 years and 4 years.
- D. 6 months and 1 year.
- E. 8 weeks and 12 months.

4. A 5-year-old boy presents to the GP with his mum. The mum explains to you that he has seemed a bit different over the past few weeks, she tells you that he's tired all the time. On observing the boy, you notice that he looks quite washed out and has some bruising on his legs. His temperature reads 38.2 degrees. The mum says he has had a few coughs and colds recently, but she thought this was just due to him starting at a new school only last month where a few children had been off sick. What investigations would you want to request to help you confirm your diagnosis?

- A. Autoantibodies and RF screen.
- B. Blood film and Bone Marrow biopsy.
- C. CXR.
- D. Cytogenetic testing.
- E. Viral throat swabs.

5. A 10-day-old baby presents to A+E very unwell. He is unconscious and shocked. An urgent blood gas shows hyponatraemia, hyperkalaemia and a metabolic acidosis. What is the most likely underlying pathology?

- A. Bowel obstruction.
- B. Congenital adrenal hyperplasia.
- C. Diabetic Ketoacidosis.
- D. Diarrhoea.
- E. Vomiting.

6. A 3-year-old girl presents to A+E with her dad. Her dad tells you that the girl has always been really fit and well and hasn't had any medical problems but this morning she had a fit lasting approximately 5 minutes. The dad seems very shaken up and worried about this. On further questioning he said that her arms and legs went very stiff and then started to shake a lot before stopping on their own. Since the fit this morning he says she has seemed very drowsy and not her usual self.

Obs: HR – 90, RR – 20, Temp – 38.5, O₂ – 100%.

You carry out an ABCDE assessment. A – clear, B – RR20, equal air entry, C – CRT<2s, HS I+II, D – GCS 15/15, BM 9mmol/l, E – pyrexial, no rash. How would you best manage this child now?

- A. Give high flow O₂ and urgently refer to paediatrics.
- B. Give urgent IV Lorazepam.
- C. Prescribe PRN Buccal Midazolam in case she has another seizure.
- D. Prescribe regular paracetamol.
- E. Reassurance, parent education and referral to paediatrics.

7. A 14-year-old boy presents to the GP complaining about his left eye. He tells you that his friends at school have been teasing him about having a droopy eyelid and he's starting to feel really embarrassed about it. O/E you notice that he does have some mild ptosis and when you ask him to follow your finger movements with his eyes you think his eye looks 'down and out'. What is the likely cause of this presentation?

- A. Abducens nerve palsy.
- B. Bell's palsy.
- C. Oculomotor nerve palsy.
- D. Ophthalmic nerve palsy.
- E. Strabismus.

8. A 16-year-old girl presents to the GP complaining of a 7-day history of sore throat, feeling feverish and a tender neck. You request some blood tests (FBC, U+Es, LFTs, CRP and a Monospot test). You reassure the patient and advise her to rest, drink plenty of clear fluids, avoid alcohol and avoid contact sports for 8 weeks. What virus is most likely to have caused this presentation?

- A. CMV
- B. EBV
- C. HHV-6
- D. HIV
- E. RSV

9. A 3-year-old boy has recently been diagnosed with acute lymphoblastic leukaemia (ALL). Following his diagnosis, the consultant explained that the boy would be commenced on induction chemotherapy followed by consolidation and maintenance treatment which would take place over the next 3 years. He explained to the patient's mother that in ALL, 'sanctuary sites' exist. He explained that these are parts of the body which the chemotherapy will not reach, and therefore would have to be monitored for relapse. Which of the following options are considered sanctuary sites?

- A. Central nervous system (CNS) and bone marrow
- B. Liver and bone marrow
- C. Liver and spleen
- D. Spleen and CNS
- E. Testes and CNS

10. A new-born baby is found to have Sickle Cell Disease following the heel prick screening test. Her parents are advised about the different treatment options that will be available to her. Which of the following is not a well-recognised treatment of sickle cell disease and its complications?

- A. Blood transfusion
- B. Hydroxycarbamide
- C. Penicillamine
- D. Penicillin
- E. Stem cell transplantation

11. An 11-month-old baby boy presents with extensive bruising and painful, swollen right knee joint, meaning he is now reluctant to move it. A non-accidental injury is ruled out and he is admitted for investigations. His mother takes his temperature regularly and says it has been normal all week. Which would be the most useful first line investigation?

- A. Clotting screen
- B. DNA analysis
- C. Inflammatory markers
- D. Rheumatoid factor
- E. White cell count

12. Haemophilia A is a deficiency in which component of the coagulation pathway?

- A. Factor IX
- B. Factor VIII
- C. Fibrin
- D. Tissue factor
- E. Von Willebrand factor

13. A 4-year-old girl presents to the GP with a continuous fever which has now lasted 5 days. She is quiet, miserable and does not engage with you. Her eyes look sore and the skin on her fingers appears to be red and peeling off. Given the most likely diagnosis, which investigation is most important to rule out a dangerous complication?

- A. CT kidneys-ureter-bladder
- B. ECG
- C. Head CT
- D. Pulmonary angiogram
- E. Transthoracic echocardiogram

14. A 18-month-old boy presents looking extremely unwell with a high fever and has been crying constantly for the past 24 hours. He was previously walking normally and there are no concerns with his development, but since he became unwell, he has stopped mobilising and is holding his right knee close to his chest with his hip flexed. His past medical history is clear, apart from recently having chickenpox. Given the most likely diagnosis, which is the most appropriate management plan?

- A. Admit for prolonged antibiotics and close monitoring
- B. Chemotherapy
- C. Routine referral to rheumatology
- D. Supportive care with analgesia and rest
- E. Surgical fixation

15. A 16-year-old girl presents with painless swellings in her neck which have grown gradually over the last 4 months. She is otherwise well but the lumps are becoming more uncomfortable and her parents are concerned. A lymph node biopsy confirms Hodgkin lymphoma and she is started on combination chemotherapy. Which investigation should be used to monitor treatment response?

- A. Blood film
- B. Chest x-ray
- C. Dual energy x-ray absorptiometry (DEXA)
- D. Positron emission tomography (PET)
- E. Repeat lymph node biopsy

16. In lymphomas, B-cell malignancies can cause classical 'B' symptoms. Which of the following is an example of a 'B' symptom?

- A. Enlarged lymph nodes
- B. Fatigue
- C. Pruritus
- D. Unexplained fever
- E. Weight gain

17. Avascular necrosis of the capital femoral epiphysis of the femoral head is also known as Perthes disease. It commonly presents as insidious onset limp with hip or knee pain. In which age group is this most likely to be seen?

- A. 0-28 days
- B. 3-6 months
- C. 1-3 years
- D. 5-10 years
- E. 11-16 years

18. Which of the following is not a risk factor for developmental dysplasia of the hip?

- A. Breech birth
- B. High birth weight
- C. Male
- D. Oligohydramnios
- E. Prematurity

19. A newborn baby develops bilious vomiting in the first few hours after birth. An abdominal x-ray shows a “double bubble” sign. Which genetic condition is this presentation associated with?

- A. Cystic fibrosis
- B. Down syndrome
- C. Edwards syndrome
- D. Patau syndrome
- E. Von Willebrand disease

20. Which of the following is not a typical feature of Down syndrome?

- A. Brushfield spots in the iris
- B. Delayed motor milestones
- C. Hypertonia
- D. Small ears
- E. Upslanted palpebral features

21. A 23-year-old woman presents to her GP as she feels that since being a teenager, she has struggled with forming relationships with potential girlfriends due to her impulsive behaviours and labile mood. She also complains that she often feels directionless and unsure of her own identity. What is the most likely diagnosis?

- A. Anankastic personality disorder
- B. Emotionally unstable personality disorder
- C. Histrionic personality disorder
- D. Paranoid personality disorder
- E. Schizoid personality disorder.

22. A 32-year-old male presents to his GP with a history of poor relationships due to his belief that every time he turns on the radio, he gets a message to stay indoors. On further discussion, he seems open to the fact that this may not be true. When you are speaking to him, he is quite eccentric in his mannerisms. What is the most appropriate diagnosis?

- A. Cluster A personality disorder
- B. Emotionally unstable personality disorder
- C. Paranoid personality disorder
- D. Schizoid personality disorder
- E. Schizotypal personality disorder

23. A previously healthy 72-year-old man has recently undergone surgery for a herniated disc. Back on the ward, he becomes markedly lethargic, sleepy, and apathetic. He is unable to focus when asked what he would like to eat and seems extremely disoriented in time and place. Which of the following is not an appropriate step in his management?

- A. Ask the patient's daughter to bring in his hearing aids and glasses
- B. Do urinalysis to assess for a urinary tract infection and treat if necessary
- C. Ensure the patient is on a busy ward to keep him socialised and active
- D. Providing the patient with a large clock that is always in his sight
- E. Temporarily catheterize the patient if he showed signs of urinary retention

24. With which of the following drugs would you advise a patient to avoid eating cheese with?

- A. Haloperidol
- B. Mirtazapine
- C. Phenezine
- D. Sertraline
- E. Valproate

25. A 66-year-old woman has a history of bipolar affective disorder for which she takes regular medication. She was started on Lithium for long term control, but found no benefit, so her psychiatrist decided to add on another medication. What is the appropriate medication to start in this case?

- A. Fluoxetine
- B. Haloperidol
- C. Lamotrigine
- D. Olanzapine
- E. Valproate

26. A patient recently diagnosed with bipolar affective disorder has been on Lithium for the past month. On his recent check-up, his serum Lithium levels are 1.7mmol/L (Normal range 0.4 - 1 mmol/L). Which of the following symptoms is he not likely to experience?

- A. Ataxia
- B. Fine tremor
- C. Seizure
- D. Slurred speech
- E. Vomiting

27. A patient on the psychiatric inpatient ward is due to be commenced on an alcohol detoxification regime. What is the most appropriate drug to use?

- A. Acamprosate
- B. Chlordiazepoxide
- C. Disulfiram
- D. Midazolam
- E. Thiamine

28. A middle-aged woman who has recently been admitted to the psychiatric ward tells you during your consultation that she usually drinks 'a bottle of vodka a day', but hasn't been able to since her admission onto the ward 2 days ago. Shortly afterwards, she begins to develop a tremor and says that she can see 'tiny people' running around her bed. Her heart rate is 150 bpm and she appears sweaty. Considering the most likely diagnosis, what is the most appropriate treatment?

- A. IV Pabrinex and high dose Benzodiazepine
- B. Low dose Olanzapine
- C. Oral Lithium
- D. Oral Thiamine
- E. 1 on 1 nurse observations until her symptoms stabilise

29. An elderly man is brought to the emergency department by his husband who is very concerned that over the last few hours he has become extremely agitated. Further investigations reveal the presence of nitrites and leukocytes in his urine, raised CRP, and low arterial oxygen with a normal CO₂. The patient is very keen to get discharged as he 'hates hospitals.' What is the most likely diagnosis?

- A. Delirium secondary to urinary tract infection.
- B. Frontotemporal dementia deterioration due to urinary tract infection.
- C. Manic episode with incidental urinary tract infection.
- D. Schizophrenia.
- E. Panic attack due to being in hospital with incidental urinary tract infection.

30. A 23-year-old man recently diagnosed with depression presents with sudden onset tachycardia, hypertension, agitation and flushed skin. What is the most likely diagnosis based on this brief history?

- A. Anaphylactic shock
- B. Delirium
- C. Lithium toxicity
- D. Neuroleptic malignant syndrome
- E. Serotonin syndrome

31. Miss Jones, a 19-year-old university student, presents to your GP surgery complaining of feeling tired all the time. She tells you that she has been finding it increasingly difficult to concentrate on her work at university and described her mood as being lower than usual. On further questioning, she tells you that she has stopped attending netball practice - which she used to love. She tells you that she has been feeling this way for over a month now. She has never experienced anything like this before. Given the history, what is the most likely diagnosis?

- A. Cyclothymia
- B. Generalized anxiety disorder
- C. Mild-moderate depression
- D. Seasonal affective disorder
- E. Severe depression

32. Mr Knight is an 82-year-old man who lives on his own. He has been brought in by his son who said he noticed his father appeared to be very confused earlier when he dropped off his shopping. Mr Knight tells you he's noticed a burning feeling when passing urine over the last couple of days and thought it would pass by itself so has not been to see the GP. On examination he appears muddled and scores poorly on the abbreviated mental test. Given the likely diagnosis, which of the following is least likely to be a feature of Mr Knight's presentation?

- A. Acute onset
- B. Disturbance of sleep-wake cycle
- C. Impaired attention
- D. Preserved consciousness
- E. Psychomotor disturbance

34. Sam is a new-born baby who has been diagnosed with Down's syndrome. Which of the following is not a medical problem associated with Down's syndrome?

- A. Acute lymphoblastic leukaemia
- B. Atrial septal defect
- C. Bicuspid aortic valve
- D. Hypothyroidism
- E. Tetralogy of Fallot

32. Mr Jackson, a 26-years-old male was diagnosed with depression 3 months ago and despite completing an online self-help programme is still struggling with low mood and low energy levels. What would be the most appropriate next step in managing this patient?

- A. Prescribe a course of amitriptyline
- B. Prescribe a course of duloxetine
- C. Prescribe a course of isocarboxazid
- D. Prescribe a course of sertraline
- E. Refer to secondary care psychiatry

35. Miss Green is a 21-year-old female who presents to your GP surgery with excessive, inappropriate worrying thoughts. She tells you that she is 'normally a worrier' but feels as though it is becoming uncontrollable and excessive. She also tells you that she has recently been staying indoors, in the fear that something terrible might happen if she was to go out into public. She says that she has to order all of her food shopping online in order to avoid going out because she is too anxious to go to the supermarket where there are lots of people. As well as this, she is reluctant to travel outdoors alone and relies on her boyfriend and friends to accompany her when she has to leave the house. When questioned further, she says that she becomes tense and sweaty when out in public, and she can feel her heart racing, so she avoids going out whenever possible. What is the most likely diagnosis?

- A. Agoraphobia
- B. Anxious personality disorder
- C. Generalized anxiety disorder
- D. Panic disorder
- E. Social phobia

36. Miss Swift presents to A&E with sudden onset heart palpitations. On examination, she is sweating profusely and shaking. Her symptoms begin to settle down after a couple of minutes. On questioning, she tells you that she is 'going through a hard time' as she has recently broken up with her boyfriend after finding out he was cheating. She has a history of generalized anxiety disorder but said she had been managing her anxiety well, up until the break-up. She says this is the 3rd time this week that she has had an episode like this, but this was by far the worst. What is the most likely diagnosis?

- A. Agoraphobia
- B. Anxious personality disorder
- C. Generalized anxiety disorder exacerbation
- D. Panic disorder
- E. Social phobia

37. Mr Berry attends the A&E department at 11pm on a Saturday night, escorted by 2 police officers. Mr Berry had started a fight whilst he was on a night out in town and suffered multiple punches to the face, which broke the skin and required stitching. On general inspection Mr Berry was full of energy and very argumentative with the hospital staff. On examination he was hypertensive, tachycardic and his pupils were profoundly dilated. Mr Berry gave a urine sample and it was sent for a toxicology screen. The results came back positive for cocaine intoxication. As well as cocaine, which of the following is another example of a stimulant drug?

- A. Anabolic steroids
- B. Cannabis
- C. Ecstasy (MDMA)
- D. Heroin (diamorphine)
- E. LSD

38. Which of the following is not a common indication for prescribing a benzodiazepine medication?

- A. Alcohol withdrawal
- B. Depression
- C. Seizures
- D. Severe anxiety
- E. Severe insomnia

39. What is the mechanism of action of a benzodiazepine?

- A. They block the postsynaptic dopamine D₂ receptors
- B. They facilitate and enhance the binding of GABA to the GABA_A receptors
- C. They inactivate monoamine oxidase enzymes
- D. They inhibit the reuptake of noradrenaline
- E. They inhibit the reuptake of serotonin

40. Mr Porter is a 38-year-old male who was brought to A&E by his wife, who became concerned when her husband started to exhibit some strange eye movements, describing them as slow, continuous, horizontal movements. On examination he is pyrexia with a temperature of 39.5 degrees Celsius, tachycardic and hypertensive. He is sweating profusely and also exhibits extreme rigidity. Mr Porter has a past medical history of schizophrenia and is currently on olanzapine. After investigations are carried out, Mr Porter is diagnosed with neuroleptic malignant syndrome and is sent to the intensive care unit to be managed. What results would you expect to find in his investigations?

- A. High pH
- B. Low white cell count
- C. Normal liver function tests
- D. Normal urea and electrolytes tests
- E. Raised creatine kinase

41. A 61-year old lady presents to her GP with a distended abdomen, pelvic pain, diarrhoea, and weight loss. The GP takes a full gynaecological history. The patient had her first period at 9 years old and went through the menopause at 51 years old. She smokes 20 cigarettes a day, and has done since she was 18. She has only been pregnant once and had to use clomifene due to her and her partner struggling to conceive for 3 years. When she had her baby, she breastfed her for 8 months.

Which of the factors in her history is not a risk factor for ovarian cancer?

- A. Age >60
- B. Breastfeeding
- C. Clomifene use
- D. Early menarche
- E. One pregnancy

42. A 15-week pregnant 38-year old woman presents to A&E with severe abdominal pain, a low-grade fever, tachycardia, and vomiting. An ultrasound is performed and confirms a viable intra-uterine pregnancy with a detectable foetal heartbeat. Due to difficulty gaining a history, you only manage to find out that the patient has a history of menorrhagia and difficulty conceiving, and her husband hasn't noticed her using the bathroom more regularly. What is the most likely cause of this patient's symptoms?

- A. Miscarriage
- B. Placental abruption
- C. Red degeneration of fibroid
- D. Ruptured ectopic pregnancy
- E. Urinary tract infection

43. An 18-year old woman presents to A&E with lower abdominal pain, deep dyspareunia, and a low-grade fever. On examination, you note cervical excitation, and also see the strings of a copper coil. The patient tells you that she had this put in a few days ago for emergency contraception, as she regularly forgets to take her Microgynon 30 and doesn't like using condoms and wanted a contraception that she wouldn't have to remember to take. You diagnose her with mild pelvic inflammatory disease. What is the most sensible course of action here?

- A. Leave the coil in, treat, and if no improvement in 24 hours remove the coil
- B. Prescribe 14d course of flucloxacillin
- C. Remove the coil immediately as it may be irritating the infection
- D. Treat with broad-spectrum antibiotics for 14d, leave the coil in
- E. Wait for the swab results to come back and treat accordingly

44. Which of the following is not used as a way to assess foetal growth?

- A. Measure femur length on ultrasound
- B. Measure foetal abdominal circumference (AC) using ultrasound
- C. Measurement of size of uterus on abdominal examination
- D. Mother's weight gain during pregnancy
- E. Palpation of the foetal head on abdominal examination

45. Which of the following types of antibiotics used to treat UTIs in pregnant women is safe to use at all gestational ages?

- A. Cephalosporins
- B. Nitrofurantoin
- C. Sulfonamides
- D. Tetracyclines
- E. Trimethoprim

46. A 62 year old lady presents to her GP reporting leaking urine. She is incredibly embarrassed as whenever she coughs or sneezes she becomes incontinent. Her daughter found some information online about pelvic floor exercises, and she has been trying these for 4 months but it hasn't made any difference. She states strongly that she doesn't want to have surgery as she has 4 young grandchildren and she is worried about complications with the anaesthetic. What is the best next step for this lady?

- A. Bladder retraining
- B. Continue pelvic floor muscles for another 2 months, and then come back if no improvement
- C. Duloxetine
- D. Oxybutynin
- E. Retropubic mid-urethral tape

47. Raised CA125 is a tumour marker which can be used to calculate risk of malignancy (RMI) for ovarian cancer, however it is not specific to this. Which of the following is not a cause of raised CA125?

- A. Adenomyosis
- B. Ascites
- C. Endometriosis
- D. Menstruation
- E. Vulval cancer

48. Which of the following would be prescribed before a patient were to have surgery for fibroids?

- A. Combined oral contraceptive pill (COCP)
- B. Endometrial ablation
- C. GnRH agonists
- D. Mirena coil
- E. Uterine artery embolisation

49. Which of the following would indicate hospital admission for pelvic inflammatory disease?

- A. Adnexal tenderness
- B. Comorbid endometriosis
- C. Dysuria
- D. Fever $>38^{\circ}\text{C}$
- E. Living far away from the hospital

50. A 26-year-old primigravida lady presents with vaginal bleeding at 32 weeks. She describes having 4 hours of severe lower abdominal pain and vaginal bleeding. In the past hour, she has changed her menstrual pad 5 times. On examination her heart rate was 110 and her BP was 95/60 and her uterus was “woody” on palpation. What is the most likely cause of her presentation?

- A. Miscarriage
- B. Placental abruption
- C. Placenta previa
- D. Uterine rupture
- E. Vasa praevia

51. Which of these would not support a diagnosis of endometriosis in a young woman presenting with pelvic pain?

- A. Cyclical gastrointestinal complaints such as painful bowel movements
- B. Infertility
- C. Pain during or after sexual intercourse
- D. Pain that is continuous
- E. Pelvic pain for the past three months

52. Janet, a 40 year old female, is a long term smoker. She is usually fit and well and has been trying to manage her endometriosis pain with NSAIDs but does not feel this is working as well as it used to. Given Janet’s age and smoking history what treatment is most appropriate to start?

- A. Combined oral contraceptive pill
- B. GnRH antagonist
- C. Hysterectomy
- D. Laparoscopy
- E. Progesterone intrauterine device

53. A 29 year old female attends A&E with pelvic discomfort and amenorrhoea for six weeks. Her pregnancy test is positive. On examination her pulse rate is 72 bpm and her blood pressure is 115/80 mmHg. An ultrasound scan shows an empty uterus, with normal adnexae. Her serum beta human chorionic gonadotrophin (beta hCG) level is 950 mIU/mL. Which is the single most appropriate next step in management?

- A. Arrange for a laparoscopy
- B. Arrange for a laparotomy
- C. Repeat the beta hCG test after 48 hours
- D. Repeat the ultrasound scan and beta hCG test after 48 hours
- E. Repeat the ultrasound scan after 48 hours

54. Which of these is not considered to be associated with risk of ectopic pregnancy?

- A. Age <18 at first sexual intercourse
- B. Age >25 at presentation
- C. Black race
- D. Smoking
- E. Use of a contraceptive intrauterine device

55. A 21 year old woman has acute onset of pain in her right iliac fossa pain. She has marked tenderness upon palpation in this area, some voluntary guarding, but no rebound tenderness. She has not vomited and denies feeling nauseous. Her temperature is 37.2°C, her pulse rate is 80 bpm, and her blood pressure is 115/80 mmHg. Her pregnancy test is negative. An ultrasound scan shows a 7 cm right-sided haemorrhagic ovarian cyst with no free fluid. Which is the single most appropriate initial management?

- A. Admit her with a view to conservative management
- B. Allow her to go home, with advice to come back if the pain worsens
- C. Perform immediate laparoscopy in case the diagnosis is torsion
- D. Refer to the surgeons to rule out appendicitis
- E. Request a computed tomography (CT) scan to confirm the diagnosis

56. A 56 yr old lady has an ovarian torsion. Her ovary is thought to be viable and a malignancy is not suspected. Which of these is first line management in ovarian torsion?

- A. Cystectomy
- B. Oophoropexy
- C. Salpingo-oophorectomy
- D. Surgical detorsion
- E. Watch and wait

57. Which of these is not a risk factor for intrauterine growth restriction (IUGR)?

- A. Interpregnancy interval of >60 months
- B. Maternal age over 35 years
- C. Maternal pre-pregnancy BMI of <20
- D. Pre-eclampsia
- E. Trisomy 18

58. Which of these is an incorrect statement regarding pregnancy and labour?

- A. Diagnosis of rupture of the membranes is made by maternal history followed by a speculum examination.
- B. Following the diagnosis of preterm prelabour rupture of the membranes, an antibiotic should be given for 14 days.
- C. Premature prelabour rupture of membranes occurs before 36+6 weeks gestation.
- D. Prelabour rupture of membranes is a normal physiological process.
- E. Preterm prelabour rupture of membranes is associated with preterm birth.

59. A 16 year old girl was brought to the clinic by her mother who is concerned because she has not yet started menstruating. The girl is 1.5 metres tall and has recently had a growth spurt and put on 2kg of weight. She is a healthy 58kg. She has normal development of pubic and axillary hair. Initial breast development had been normal, but no further development has happened over the last year. She has two sisters who started their periods at the ages of 12 and 14 years respectively. Which biochemical test is of least importance to request in this patient?

- A. Androgen levels
- B. FSH and LH
- C. Oestrogen
- D. Pregnancy test
- E. Thyroid function tests

60. Androgen insensitivity syndrome is caused by a mutation in the androgen receptor gene causing resistance to androgens in the target tissues. Which of the following is not a consequence of this?

- A. AMH is secreted by the fetal testes.
- B. Development of the testes does not require the presence of androgens.
- C. In the embryo the testes develop normally.
- D. Regression of müllerian structures occurs.
- E. Wolffian ductal structures develop.

61. A 24 year old female presents to her GP with a 1 week history of yellow, odourless vaginal discharge. She has also experienced deep dyspareunia, and some PV bleeding. Her last menstrual period was 2 weeks ago. She has recently had a new sexual partner, and is using the Mirena coil for contraception. On speculum examination, her cervix is red, and yellow discharge is visible. Swabs are taken, and she has a negative urine pregnancy test. Given the most likely diagnosis, what is the most appropriate drug to prescribe?

- A. Azithromycin 1g single PO dose
- B. Ceftriaxone 1g single IM dose
- C. Clotrimazole 500mg single pessary, at night
- D. Doxycycline 100mg PO BD for 7 days
- E. Metronidazole 200mg PO TDS for 7 days

62. Jack, a 30 year old male, presents with pain on passing urine and a clear urethral discharge for the past week. He has recently had unprotected sex with a new male partner, who he thinks might have chlamydia. What would be the most appropriate test to confirm the diagnosis of chlamydia?

- A. First catch urine sample for culture
- B. First catch urine sample for microscopy
- C. First catch urine sample for NAAT
- D. Urethral swab for NAAT
- E. Urethral swab for microscopy

63. Emily, a 23 year old lady, visited your GP clinic 3 weeks ago concerned about a lesion on her vulva which has since resolved. However, she complains that over the past 2 weeks she has been experiencing symptoms of headaches and blood in her urine which don't seem to be going away. On examination you notice a mucocutaneous rash on her trunk, palms and the soles of her feet as well as inguinal lymphadenopathy. Which of the following could be causing her symptoms?

- A. Genital warts
- B. Herpes
- C. Scabies
- D. Secondary syphilis
- E. Tertiary syphilis

64. Beth, a 25 year old female, has been in a relationship for the past 4 years. She is worried because her partner has noticed that she has not been initiating sex recently. She has recently been started on sertraline for anxiety, and she thinks she has been less interested in sex since then. When her partner initiates sex, she still enjoys it, but does not ever want to initiate it herself. What is the most likely diagnosis underlying her partner's concerns?

- A. Depression

- B. Female sexual arousal disorder
- C. Generalised anxiety disorder
- D. Hypoactive sexual desire disorder
- E. Sexual aversion disorder

65. Which of the following investigation results indicate that the patient has previously been treated for syphilis?

- A. VDRL negative, TPHA negative
- B. VDRL negative, TPHA positive
- C. VDRL positive, TPHA negative
- D. VDRL positive, TPHA negative
- E. Positive PCR swab result

66. Which of the following is not a complication of chlamydia infection in pregnancy?

- A. Chorioamnionitis
- B. Neonatal conjunctivitis
- C. Neonatal meningoencephalitis
- D. Neonatal pneumonia
- E. Prelabour rupture of membranes

67. Which of the following is not a feature of congenital syphilis?

- A. Generalised lymphadenopathy
- B. Hepatosplenomegaly
- C. Rash
- D. Skeletal malformations
- E. Ejection systolic murmur

68. Which of the following is not a cause of superficial dyspareunia?

- A. Genital herpes
- B. Lichen sclerosus
- C. Pelvic inflammatory disease
- D. Thrush
- E. Vaginismus

69. Which of the following is not a common cause of retrograde ejaculation?

- A. Bladder neck surgery
- B. Congenital abnormality
- C. Diabetic autonomic neuropathy
- D. Erectile dysfunction
- E. Transurethral resection of the prostate

70. Which of the following is contraindicated in babies born with hypospadias?

- A. Circumcision
- B. Corrective surgery
- C. Genetic testing
- D. Urinalysis
- E. Ultrasound of the genitalia

71. Which of the following is not a characteristic feature of a migraine?

- A. It can be associated with nausea
- B. It can be associated with photophobia
- C. It can be triggered by alcohol
- D. It is characteristically unilateral
- E. It typically lasts for less than 1 hour

72. Zoe is a 24-year-old female patient who has experienced at least 2 migraines per month over the past 4 months. This is really starting to affect her work and she's worried that she might lose her job if she keeps having to take sick days. What is the most appropriate prophylactic treatment for migraines to start Zoe on?

- A. Ibuprofen
- B. Paracetamol
- C. Propranolol
- D. Sumatriptan
- E. Topiramate

73. Which scoring system is used to calculate the risk of a stroke in a patient if they have presented with a suspected TIA?

- A. ABCD2 Score
- B. CHADSVASC Score
- C. FRAX Score
- D. TIMI Score
- E. Wells Score

74. In patients who have had a TIA, when is a carotid artery endarterectomy clinically indicated?

- A. As a first line management for a suspected TIA
- B. When the carotid stenosis is < 70%
- C. When the carotid stenosis is > 70%
- D. When the patient is severely disabled
- E. When the patient requests one

75. Which of the following is not a feature of Parkinson's disease?

- A. Hyperkinesia
- B. Hypomimia
- C. Hypophonia
- D. Pill-rolling tremor
- E. Postural instability

- 76. Which medication is the most likely cause of Parkinsonism symptoms as a side effect?**
- A. Clozapine
 - B. Haloperidol
 - C. Olanzapine
 - D. Quetiapine
 - E. Risperidone
- 77. Which medication, which works by preventing stimulation of glutamate receptors, can be given to patients with amyotrophic lateral sclerosis to prolong their life?**
- A. Carbamazepine
 - B. Pregabalin
 - C. Riluzole
 - D. Sodium Valproate
 - E. Vigabatrin
- 78. Which is the most common cause of meningitis in neonates?**
- A. E. coli
 - B. Group B Streptococcus
 - C. Haemophilus Influenzae
 - D. Neisseria Meningitidis
 - E. Streptococcus Pneumoniae
- 79. For those who have been in close contact within 7 days before onset of a patient with confirmed bacterial meningitis, which antibiotic should they be given?**
- A. IM benzylpenicillin
 - B. IV cefotaxime
 - C. IV ciprofloxacin
 - D. Oral amoxicillin
 - E. Oral ciprofloxacin
- 80. If a patient suffers from foot drop and weak dorsiflexion, it may indicate there is spinal nerve root compression of which nerve?**
- A. L3
 - B. L4
 - C. L5
 - D. S1
 - E. S2

81. A 15-year-old girl attends A&E following a collapse at home. The collapse was witnessed by her friend, who describes the patient gradually sinking to the ground and then flexing and extending her arms. This lasted for 30 minutes, with the symptoms waxing and waning throughout that time. Her eyes were closed throughout. You suspect a non-epileptic attack. Which of the features described is not typical of a non-epileptic attack?

- A. Arms flexing and extending
- B. Eyes are usually closed
- C. Gradually sinks to the ground at the start of the attack
- D. Seizure >30 minutes
- E. Symptoms wax and wane throughout the seizure

82. An 80-year-old woman is admitted to hospital following a fall at home after getting up from her chair. She describes feeling light-headed at the time of the fall, and states this often happens when she stands up. You suspect orthostatic hypotension. What finding on examination would allow you to make a diagnosis of orthostatic hypotension?

- A. Systolic drops 5, diastolic drops 5 within 1 minute of standing
- B. Systolic drops 15, diastolic drops 10 within 3 minutes of standing
- C. Systolic drops 35, diastolic drops 15 within 3 minutes of standing
- D. Systolic rises 15, diastolic drops 10 within 1 minute of standing
- E. Systolic and diastolic remain the same on both sitting and standing at 1, 3 and 5 minutes

83. A 70-year-old man presents with sudden severe pain in the centre of his chest that began while gardening. It radiated to his neck and jaw, and has now begun to spread caudally. The pain was 10/10 at the time of onset and has since receded to 7/10. On examination, he appears sweaty, and your only findings are a weak left-sided pulse compared to the right and mild hypertension. His medical records reveal a past medical history of hypertension, drug history of amlodipine and no known drug allergies. What is the most likely diagnosis?

- A. Aortic dissection
- B. AV block
- C. Gastro-oesophageal reflux disease
- D. Myocardial infarction
- E. Pulmonary embolism

84. Robert, a 72-year-old gentleman man is in the hospital following a total hip replacement. Two days post-operatively, he develops acute pleuritic chest pain and shortness of breath. You suspect a diagnosis of pulmonary embolism and order a chest X-ray, 12-lead ECG and an arterial blood gas. Which of the following results are least likely to be seen in PE?

- A. Fleischner sign on CXR
- B. Hyperinflation on CXR
- C. Sinus tachycardia on ECG
- D. ST depression on ECG
- E. Type 1 respiratory failure

85. An 85-year-old patient presents with rapid onset chest pain and shortness of breath. It is severe, sharp, and pleuritic in nature, located in the left anterior chest and radiating into the arm. It is relieved by sitting forward and exacerbated by lying down. Prior to this, they have been fit and well and do not have any medical conditions or take regular medications, but they did have a flu-like illness a week prior. Which of the following is the most appropriate initial treatment?

- A. Antibiotics
- B. Colchicine
- C. Corticosteroids
- D. Heparin
- E. NSAIDs

86. What is the mechanism of action of N-acetylcysteine in the treatment of paracetamol overdose?

- A. Blocks adenosine receptors
- B. Competitively inhibits dihydrofolate reductase
- C. Inhibits xanthine oxidase
- D. Modulates sodium and calcium channels in hepatocyte cell walls
- E. Replenishes body stores of glutathione

87. An 80-year-old man is given heparin for DVT prophylaxis while in the hospital. However, he undergoes a significant GI haemorrhage shortly after being admitted. In light of his haemorrhage, what can be given to reduce the effects of the heparin?

- A. Beriplex
- B. Idarucizumab
- C. Platelet transfusion
- D. Protamine
- E. Vitamin K

88. A 70-year-old man presents with chronic fatigue. He is otherwise asymptomatic, but you note pallor and mild glossitis on examination. What is the most likely diagnosis based on the Full Blood Count results show below

Haemoglobin: 100 (115-165)

WBC: 3.0 (4.0-11.0)

PLT: 71 (150-400)

RBC: 4.0 (3.8-5.8)

MCV: 98 (80-94)

MCH: 38 (32-36)

- A. B12 deficiency anaemia
- B. Haemolytic anaemia
- C. Iron deficiency anaemia
- D. Sickle cell anaemia
- E. Thalassaemia

89. Jim is a 53-year-old gentleman who has smoked all his life. He is brought to hospital via ambulance following sudden onset severe chest pain radiating to his left arm and jaw. The paramedics have given morphine, oxygen, GTN, and aspirin en route to the hospital as they suspect him to be having a myocardial infarction. Following your assessment in A&E he is sent urgently for PCI treatment which was successful Jim has been recovering on the ward and is deemed medically fit for discharge, what treatment is appropriate to send Jim home with?

- A. ACEi + Beta Blocker + Spironolcatone
- B. ACEi + Beta Blocker + Statin + Aspirin + Clopidogrel
- C. Aspirin + Ticagrelor
- D. Beta Blocker + Statin + Long Term Oxygen Therapy
- E. Statins + Lifestyle advice only

90. Which of these nail signs is most associated with iron deficiency anaemia?

- A. Koilonychia
- B. Leukonychia
- C. Onycholysis
- D. Onychogryphosis
- E. Trachyonychia

91. Pete, a 31-year-old gentleman, has recently noticed changes to the sensation of his feet, he states he feels like he has thick cotton socks on. He has a poor diet and has struggled to improve this given the availability of shops near him and feels he doesn't have the time or skills required to cook nutritious food, so often buys pre-prepared food. His HbA1c was found to be 54 mmol/mol. What complications does this gentleman not need to be aware of?

- A. Diabetic neuropathy causing foot ulceration and potentially amputation
- B. Diabetic retinopathy
- C. Increased susceptibility to infection
- D. Increased risk of infertility
- E. Increased risk of dementia

92. A 30-year-old woman has been advised by her midwife to book an appointment with the GP. She is currently 15 weeks pregnant (G1P0). She has noticed a change in her appetite and is really enjoying "eating for 2" given that she is always hungry. However, she also always feels cold and is worried her hair may be thinning. She has been more irritable and sometimes notices her hands shake. On Examination you notice exophthalmos. Which feature is not suggestive of this patient's thyroid disease?

- A. Pregnancy
- B. Increased Appetite
- C. Tremor
- D. Exophthalmos
- E. Cold intolerance

93. At a regular pill check for the COCP, a 38-year-old caucasian woman is found to have blood pressure of 162/104, with similar results documented on ambulatory home blood pressure monitoring. She is switched onto progesterone only contraceptive and offered lifestyle advice. Following lifestyle changes and continued high readings, the decision is made to start treatment. Which drug is most appropriate?

- A. Amlodipine
- B. Ramipril
- C. Nifedipine
- D. Labetalol
- E. Bendroflumethiazide

94. Gwendolyn is a 23-year-old university student. She has come to the GP as she's been feeling more tired recently and has started to feel self-conscious about it as several people have commented that she looks pale and worn out. She tried to give blood recently but was unable to. She has no other diseases and has had no changes in bowel pattern. She also wants to ask about trying a contraceptive pill to help manage heavy periods. She eats a vegetarian diet and uses replacement B12 and folate supplements, but does not like legumes or lentils. What findings would you expect on an FBC and blood film?

- A. Sickle cells
- B. Low Hb, low MCV
- C. Low Hb, high MCV
- D. Low Hb, normal MCV
- E. Normal Hb, Increased white cells

95. Charles, a 50-year-old man, has come to see his GP. He has been very tired, he initially attributed this to "slowing down with age" but other symptoms are also concerning him. He has noticed he gets hot and can wake up drenched in sweat. He bruises like a peach from only mild injuries and his teeth have been bleeding when he brushes them. On examination he has splenomegaly and appears pale. Which chromosome is likely to be seen on genetic testing in this patient?

- A. Manchester Chromosome
- B. Philadelphia Chromosome
- C. Extra Chromosome 21
- D. Baltimore Chromosome
- E. HTLV1 infection

96. Ruby comes to see you as her joints are getting very painful which is starting to interfere with her ability to shuffle and handle cards at her weekly bridge tournament. The pain is worse when she is playing cards and gets better after a period of rest. On examining, you see some amount of swelling on the joints and Bouchard's and Heberden's nodes. What joints are typically involved in this arthritis?

- A. Symmetrical large joints (hips and knees)
- B. Joints of the spine, beginning at Sacro-ileal joints
- C. First metatarsophalangeal joint
- D. Large joints (knees hips) or joints of the hands (DIDP, PIIJ)
- E. Hand joints only

97. A man comes to see you at a GP practice complaining of an extremely painful, warm, and swollen knee. This severe pain came on overnight. There are no associated symptoms, and the pain does not radiate, movement of the joint causes pain. There is no systemic disease. He is vegetarian. He remembers his Father suffering similar attacks. His serum uric acid levels are normal. What type of features would you expect to see on the Joint Fluid Aspiration?

- A. Positively Birefringent Crystals
- B. Negatively Birefringent needles
- C. Negatively Birefringent Crystals
- D. Gram positive round shaped bacterium
- E. Positively birefringent needles

98. A 29-year-old schoolteacher comes to see you because of their changed bowel habit. They have needed to open their bowels up to six times a day, with stool that is loose. They have lost 2kgs of weight over the last 6 weeks and felt tired and had little energy. They deny any changes to their diet, although their appetite is currently reduced. They are a smoker but have stopped recently due to painful mouth ulcers. Which of these would be the definitive test for diagnosis of the condition?

- A. Stool sample culture and microscopy
- B. Blood tests (FBC, CRP and LFTs) and stool culture and microscopy and fetal calprotectin
- C. Ileocolonoscopy (taking biopsies from terminal ileum and affected colonic areas)
- D. Barium studies on contrast MRI to assess
- E. Trial of treatment

99. Janet presents to the hospital confused and disorientated with significant jaundice. She had recently binged alcohol but is not normally a heavy drinker. She had a chest infection requiring antibiotics the previous week and recently returned from holiday in Mauritius. She is diagnosed with acute liver failure, on investigation due to acute alcohol excess, and is treated accordingly. Which of the following is not a potential cause for acute liver failure?

- A. Paracetamol overdose
- B. Hepatitis A
- C. Staphylococcus Aureus
- D. Pre-eclampsia developing into HELLP syndrome
- E. Fructose intolerance

100. Phil, a 67-year-old man has a complex past medical history of cardiovascular disease, peripheral arterial disease and a recent ischaemic stroke. He is taking a large number of medications including aspirin and clopidogrel as part of dual antiplatelet therapy. Which of the options below correctly describes the targets of these respective medications?

- A. COX 1 (aspirin) and P2Y12 (clopidogrel)
- B. COX 2 (aspirin) and P2Y12 (clopidogrel)
- C. COX 1 (aspirin) and P2Y10 (clopidogrel)
- D. COX 2 (aspirin) and Glycoprotein IIb IIIa (clopidogrel)
- E. COX 1 (aspirin) and Glycoprotein IIa IIIb (clopidogrel)

[END OF PAPER 1]

Important note- this mock SBA is meant to be used as a learning tool, it intentionally covers a broad range of topics and asks challenging questions in order to enable you to set future goals for learning and most importantly to learn from the answers and explanations, adding these to your notes.

This is merely a revision resource and not a reflection of the true exam.

Answers- see separate document: PTS 3a Mock SBA Series- Paper 1- ANSWERS

Scores/Feedback- When you have marked your paper please complete the Paper 1 Google form to record your scores and feedback on questions. This is found here and on the answer document.

<https://forms.gle/ebcvLpEdokGT4x7J6>

Thanks again to: Chief exam editor: *Andrew Maud*. SBA question contributors: *Ella Kulman Katherine Meadows, Qaiys Qaoud, Charlotte Pickavance, Hannah Lunt, Natlie Menic, Bryony Cushen Melanie Coulson, Sally Mather, Emma Willian*.