

Asstt. Professor Comp Exam 2024
(Med. Edu Deptt.)

07/07/2025

MPA-25

794821

प्रश्न-पुस्तिका संख्या व बारकोड /
Question Booklet No. & Barcode

इस प्रश्न-पुस्तिका को तब तक न खोलें जब तक
कहा न जाए। Do not open this Question
Booklet until you are asked to do so.

पुस्तिका में पृष्ठों की संख्या : 24
Number of Pages in Booklet : 24
पुस्तिका में प्रश्नों की संख्या : 150
No. of Questions in Booklet : 150



Paper Code : 81 Sub : Clinical Immunology and Rheumatology

समय : 02:30 घण्टे + 10 मिनट अतिरिक्त* Exam Date 04/07/2025
Time : 02:30 Hours + 10 Minutes Extra*

अधिकतम अंक : 150
Maximum Marks : 150

प्रश्न-पुस्तिका के पेपर की सील/पोलिथीन बैग को खोलने पर प्रश्न-पत्र हल करने से पूर्व परीक्षार्थी यह सुनिश्चित कर लें कि :

- प्रश्न-पुस्तिका संख्या तथा ओ.एम.आर. उत्तर-पत्रक पर अंकित बारकोड संख्या समान हैं।
- प्रश्न-पुस्तिका एवं ओ.एम.आर. उत्तर-पत्रक के सभी पृष्ठ व सभी प्रश्न सही मुद्रित हैं। समस्त प्रश्न, जैसा कि ऊपर वर्णित है, उपलब्ध हैं तथा कोई भी पृष्ठ कम नहीं है / मुद्रण त्रुटि नहीं है। किसी भी प्रकार की विसंगति या दोषपूर्ण होने पर परीक्षार्थी वीक्षक से दूसरा प्रश्न-पत्र प्राप्त कर लें। यह सुनिश्चित करने की जिम्मेदारी अभ्यर्थी की होगी। परीक्षा प्रारम्भ होने के 5 मिनट पश्चात् ऐसे किसी दावे/आपत्ति पर कोई विचार नहीं किया जायेगा।
- On opening the paper seal/polythene bag of the Question Booklet before attempting the question paper, the candidate should ensure that :
 - Question Booklet Number and Barcode Number of OMR Answer Sheet are same.
 - All pages & Questions of Question Booklet and OMR Answer Sheet are properly printed. All questions as mentioned above are available and no page is missing/misprinted.
- If there is any discrepancy/defect, candidate must obtain another Question Booklet from Invigilator. Candidate himself shall be responsible for ensuring this. No claim/objection in this regard will be entertained after five minutes of start of examination.

परीक्षार्थियों के लिए निर्देश

1. प्रत्येक प्रश्न के लिये एक विकल्प भरना अनिवार्य है।
2. सभी प्रश्नों के अंक समान हैं।
3. प्रत्येक प्रश्न का मात्र एक ही उत्तर दीजिए। एक से अधिक उत्तर देने की दशा में प्रश्न के उत्तर को गलत माना जाएगा।
4. OMR उत्तर-पत्रक इस प्रश्न-पुस्तिका के अन्दर रखा है। जब आपको प्रश्न-पुस्तिका खोलने को कहा जाए, तो उत्तर-पत्रक निकाल कर ध्यान से केवल नीले बॉल पॉइंट पेन से विवरण भरें।
5. कृपया अपना रोल नम्बर ओ.एम.आर. उत्तर-पत्रक पर सावधानीपूर्वक सही भरें। गलत रोल नम्बर भरने पर परीक्षार्थी स्वयं उत्तरदायी होगा।
6. ओ.एम.आर. उत्तर-पत्रक में करेक्शन पेन/व्हाइटनर/सफेदा का उपयोग निषिद्ध है।
7. प्रत्येक गलत उत्तर के लिए प्रश्न अंक का 1/3 भाग काटा जायेगा। गलत उत्तर से तात्पर्य अशुद्ध उत्तर अथवा किसी भी प्रश्न के एक से अधिक उत्तर से है।
8. प्रत्येक प्रश्न के पाँच विकल्प दिये गये हैं, जिनमें क्रमशः 1, 2, 3, 4, 5 अंकित किया गया है। अभ्यर्थी को सही उत्तर निर्दिष्ट करते हुए उनमें से केवल एक गोले (बबल) को उत्तर-पत्रक पर नीले बॉल पॉइंट पेन से गहरा करना है।
9. यदि आप प्रश्न का उत्तर नहीं देना चाहते हैं तो उत्तर-पत्रक में पाँचवें (5) विकल्प को गहरा करें। यदि पाँच में से कोई भी गोला गहरा नहीं किया जाता है, तो ऐसे प्रश्न के लिये प्रश्न अंक का 1/3 भाग काटा जायेगा।
- 10.* प्रश्न-पत्र हल करने के उपरान्त अभ्यर्थी अनिवार्य रूप से ओ.एम.आर. उत्तर-पत्रक जाँच लें कि समस्त प्रश्नों के लिये एक विकल्प (गोला) भर दिया गया है। इसके लिये ही निर्धारित समय से 10 मिनट का अतिरिक्त समय दिया गया है।
11. यदि अभ्यर्थी 10% से अधिक प्रश्नों में पाँच विकल्पों में से कोई भी विकल्प अंकित नहीं करता है तो उसको अयोग्य माना जायेगा।
12. मोबाइल फोन अथवा अन्य किसी इलेक्ट्रॉनिक यंत्र का परीक्षा हॉल में प्रयोग पूर्णतया वर्जित है। यदि किसी अभ्यर्थी के पास ऐसी कोई वर्जित सामग्री मिलती है तो उसके विरुद्ध आयोग द्वारा नियमानुसार कार्यवाही की जायेगी।

चेतावनी : अगर कोई अभ्यर्थी नकल करते पकड़ा जाता है या उसके पास से कोई अनधिकृत सामग्री पाई जाती है, तो उस अभ्यर्थी के विरुद्ध पुलिस में प्राथमिकी दर्ज कराते हुए राजस्थान सार्वजनिक परीक्षा (भर्ती में अनुचित साधनों की रोकथाम अध्यापय) अधिनियम, 2022 तथा अन्य प्रभावी कानून एवं आयोग के नियमों-प्रावधानों के तहत कार्यवाही की जाएगी। साथ ही आयोग ऐसे अभ्यर्थी को भविष्य में होने वाली आयोग की समस्त परीक्षाओं से विवर्जित कर सकता है।

उत्तर-पत्रक में दो प्रतियाँ हैं - मूल प्रति और कार्बन प्रति। परीक्षा समाप्ति पर परीक्षा कक्ष छोड़ने से पूर्व परीक्षार्थी उत्तर-पत्रक की दोनों प्रतियाँ वीक्षक को सौंपेंगे, परीक्षार्थी स्वयं कार्बन प्रति अलग नहीं करें। वीक्षक उत्तर-पत्रक की मूल प्रति को अपने पास जमा कर, कार्बन प्रति को मूल प्रति से कट लाइन से मोड़ कर सावधानीपूर्वक अलग कर परीक्षार्थी को सौंपेंगे, जिसे परीक्षार्थी अपने साथ ले जायेंगे। परीक्षार्थी को उत्तर-पत्रक की कार्बन प्रति चयन प्रक्रिया पूर्ण होने तक सुरक्षित रखनी होगी एवं आयोग द्वारा मांगे जाने पर प्रस्तुत करनी होगी।

INSTRUCTIONS FOR CANDIDATES

1. It is mandatory to fill one option for each question.
2. All questions carry equal marks.
3. Only one answer is to be given for each question. If more than one answers are marked, it would be treated as wrong answer.
4. The OMR Answer Sheet is inside this Question Booklet. When you are directed to open the Question Booklet, take out the Answer Sheet and fill in the particulars carefully with Blue Ball Point Pen only.
5. Please correctly fill your Roll Number in OMR Answer Sheet. Candidates will themselves be responsible for filling wrong Roll No.
6. Use of Correction Pen/Whitener in the OMR Answer Sheet is strictly forbidden.
7. 1/3 part of the mark(s) of each question will be deducted for each wrong answer. A wrong answer means an incorrect answer or more than one answers for any question.
8. Each question has five options marked as 1, 2, 3, 4, 5. You have to darken only one circle (bubble) indicating the correct answer on the Answer Sheet using BLUE BALL POINT PEN.
9. If you are not attempting a question then you have to darken the circle '5'. If none of the five circles is darkened, one third (1/3) part of the marks of question shall be deducted.
- 10.* After solving question paper, candidate must ascertain that he/she has darkened one of the circles (bubbles) for each of the questions. Extra time of 10 minutes beyond scheduled time, is provided for this.
11. A candidate who has not darkened any of the five circles in more than 10% questions shall be disqualified.
12. Mobile Phone or any other electronic gadget in the examination hall is strictly prohibited. A candidate found with any of such objectionable material with him/her will be strictly dealt with as per rules.

Warning : If a candidate is found copying or if any unauthorized material is found in his/her possession, F.I.R. would be lodged against him/her in the Police Station and he/she would be liable to be prosecuted under Rajasthan Public Examination (Measures for Prevention of Unfair means in Recruitment) Act, 2022 & any other laws applicable and Commission's Rules-Regulations. Commission may also debar him/her permanently from all future examinations.

1. Which of the following is not a typical histopathological feature of IgG4 related disease ?
 - (1) Ratio of IgG4/IgG cells more than 40%
 - (2) Obliterative phlebitis and storiform fibrosis
 - (3) Eosinophilic infiltration
 - (4) Neutrophilic infiltrates
 - (5) Question not attempted
2. Regarding pre-clinical rheumatoid arthritis (pre-RA), the EULAR recommendations for terminology in individuals at risk of RA suggest :
 - (1) The term "pre-RA" should be used as soon as an individual tests positive for RA-related autoantibodies.
 - (2) Clinically apparent arthritis is defined solely by the presence of RA-related autoantibodies in the absence of physical signs.
 - (3) The phases of disease development can be used in a combinatorial manner, and the term "pre-RA" should not be used until it is certain an individual has developed classifiable RA.
 - (4) Individuals with genetic and environmental risk factors, even without systemic autoimmunity, should be classified as having early pre-RA.
 - (5) Question not attempted
3. According to the ASAS classification criteria for peripheral spondyloarthritis (PSPA), which of the following statements is true ?
 - (1) Age cut-off is a mandatory requirement for applying PSPA criteria.
 - (2) Presence of current back pain excludes a patients from being classified as PSPA.
 - (3) Sensitivity and specificity of the criteria are both below 70%.
 - (4) The presence of both enthesitis and dactylitis is insufficient for classification.
 - (5) Question not attempted
4. True about Minimum Disease Activity (MDA) criteria for psoriatic arthritis is :
 - (1) Patient should meet all seven criteria to consider as having MDA.
 - (2) On joint assessment, swollen joint count should be ≤ 3 .
 - (3) MDA can be used as a responder index.
 - (4) It includes only patients who achieve remission.
 - (5) Question not attempted
5. Which of the following is true regarding the diagnostic criteria for reactive arthritis proposed by the fourth international workshop ?
 - (1) A definite diagnosis requires both major criterias and atleast two minor criterias.
 - (2) A probable diagnosis can be made with only one minor and no major criterias.
 - (3) Major criterias include asymmetric arthritis, lower limb involvement and preceding symptomatic infection.
 - (4) Added features like eye involvement or HLA-B27 positivity significantly increases diagnostic accuracy.
 - (5) Question not attempted
6. Which of the following patient-reported questionnaires used in rheumatoid arthritis (RA) assessment is unique in that it incorporates scales for depression and anxiety in addition to the functional categories of the original Health Assessment Questionnaire (HAQ) ?
 - (1) The Medical Outcomes Study Short Form 36 (SF-36)
 - (2) The Rheumatoid Arthritis Disease Activity Index (RADAI)
 - (3) The multidimensional HAQ (MDHAQ)
 - (4) The Clinical HAQ (CLINHAQ)
 - (5) Question not attempted

7. Which of the following features most accurately distinguishes systemic sclerosis (SSc) from other autoimmune disorders ?

- (1) Presence of disease specific autoantibodies.
- (2) Activation of innate immune response (pathway).
- (3) Progressive obliterative vasculopathy.
- (4) Extensive tissue fibrosis with rigid extracellular matrix deposition.
- (5) Question not attempted

8. In the context of biologic DMARD (bDMARD) induction followed by tapering, what is a notable finding from the HIT-HARD RCT ?

- (1) Sustained superiority of immediate adalimumab / methotrexate combination therapy over methotrexate monotherapy was observed across all clinical and radiographic outcomes at 48 weeks.
- (2) Stopping adalimumab after 24 weeks in the combination therapy arm resulted in a complete loss of initial clinical benefits compared to the methotrexate monotherapy arm at 48 weeks.
- (3) While combination therapy showed superior clinical outcomes at 24 weeks, these outcomes largely converged with methotrexate monotherapy by 48 weeks, although radiographic progression remained lower with initial adalimumab.
- (4) The HIT-HARD trial demonstrated that a fixed duration of bDMARD induction (24 weeks) followed by cessation is an effective strategy for achieving drug free remission in early RA.
- (5) Question not attempted

9. All of the following are considered as risk factors for development of systemic lupus erythematosus, except :

- (1) Use of oral contraceptives in females
- (2) Postmenopausal state
- (3) Psychosocial stressors
- (4) Obesity
- (5) Question not attempted

10. As per ACR 2024 guidelines, which of the following regimens is not an initial treatment regimen to be adopted for newly diagnosed Class III/IV Lupus Nephritis cases ?

- (1) Combination of Prednisolone, Mycophenolate mofetil and Belimumab
- (2) Combination of Prednisolone, Mycophenolate mofetil and Tacrolimus
- (3) Combination of Prednisolone, Voclosporin and Belimumab
- (4) Combination of Prednisolone, low-dose Cyclophosphamide and Belimumab
- (5) Question not attempted

11. Which of the following groups of patients were not excluded in the RAVE trial ?

- (1) Patients with severe and active disease with BVAS/WG score ≥ 3
- (2) Patients with limited disease
- (3) Severe disease requiring mechanical ventilation
- (4) Severe renal involvement with serum creatinine > 4 mg/dL
- (5) Question not attempted

12. Which of the following is a component of the revised (2022) ACR/EULAR Boolean remission criterion for RA ?
- (1) Patient global assessment ≤ 1 cm (range 0-10 cm)
 - (2) Patient global assessment ≤ 1.5 cm (range 0-10 cm)
 - (3) Physician global assessment ≤ 1 cm (range 0-10 cm)
 - (4) Patient global assessment ≤ 2 cm (range 0-10 cm)
 - (5) Question not attempted
13. Which of the following features best distinguishes eosinophilic granulomatosis with polyangitis (EGPA) from other ANCA-Associated vasculitides ?
- (1) Presence of pauci-immune glomerulonephritis
 - (2) Association with asthma and eosinophilia
 - (3) Strong association with C-ANCA
 - (4) Granulomatous inflammation of upper respiratory tract
 - (5) Question not attempted
14. Which of the following statement regarding polyarteritis nodosa (PAN) is correct ?
- (1) PAN typically present with glomerulonephritis and is ANCA positive.
 - (2) PAN is strongly associated with hepatitis B infection.
 - (3) PAN is classified under immune complex-mediated small vessel vasculitis.
 - (4) The 1990 ACR criteria for PAN includes asthma and nasal polyps.
 - (5) Question not attempted
15. Which of the following features best differentiate Takayasu's Arteritis (TAK) from giant cell arteritis ?
- (1) Involvement of the aorta and its major branches
 - (2) Histological presence of granulomatous inflammation
 - (3) Onset typically before the age of 50 years
 - (4) Use of vascular imaging for diagnosis
 - (5) Question not attempted
16. True about Libman-Sacks endocarditis are all except :
- (1) Verrucae typically appear as pea-sized, flat or raised granular lesions
 - (2) Commonly occur on ventricular side of posterior mitral valve leaflet
 - (3) Histologically, active lesions consists of fibrin clumps with polymorphonuclear cell infiltrates
 - (4) Associated with the presence of antiphospholipid antibodies
 - (5) Question not attempted
17. True about lupus myelitis are all except :
- (1) Can occur at any time during the disease course
 - (2) Always occurs in the presence of disease activity in other organs
 - (3) White matter myelitis is characterized by spasticity and hyperreflexia
 - (4) Majority of patients with grey matter myelitis present with urinary retention
 - (5) Question not attempted

18. Which of the following is a common strategy to prevent fetal loss in antiphospholipid syndrome (APS) patients with a history of pregnancy morbidity?
- (1) High dose corticosteroid and aspirin
 - (2) Low dose aspirin and heparin
 - (3) Plasma exchange and anti-coagulation
 - (4) Intravenous immunoglobulin and moderate intensity anti-coagulation
 - (5) Question not attempted
19. All of the following are used to assess spinal mobility in axial spondyloarthritis except:
- (1) Chest expansion
 - (2) Tragus to wall distance
 - (3) Lateral spinal flexion
 - (4) Intermalleolar distance
 - (5) Question not attempted
20. Which of the following is an inhibitor of new bone formation and osteoproliferation in axial spondyloarthritis?
- (1) Sclerostin
 - (2) Bone morphogenetic protein-2
 - (3) Hedgehog protein
 - (4) Prostaglandin E2
 - (5) Question not attempted
21. Which of the following MRI sequences/technique is best suited to detect erosions of SI joint?
- (1) Short Tau Inversion Recovery (STIR)
 - (2) Volumetric Interpolated Breath-hold Examination (VIBE)
 - (3) T1 weighted sequence after IV contrast
 - (4) Dynamic MRI of SI joints
 - (5) Question not attempted
22. All of the following are components of Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) except:
- (1) Severity of night pain on scale 0 to 10
 - (2) Level of fatigue on scale 0 to 10
 - (3) Duration of morning stiffness on a scale of 0 to 10
 - (4) Discomfort from touch or pressure on any tender areas on a scale of 0 to 10
 - (5) Question not attempted
23. Which of the following biologic DMARD therapy is not recommended or approved for treatment of Axial SpA at present?
- (1) Certolizumab
 - (2) Secukinumab
 - (3) Ixekizumab
 - (4) Ustekinumab
 - (5) Question not attempted
24. All of the following are disease activity assessment indices for axial SpA except:
- (1) ASAS 5/6 criteria
 - (2) EULAR response criteria
 - (3) ASDAS
 - (4) EASi-QoL
 - (5) Question not attempted
25. Which of the following is a common vascular manifestation of Behcet's disease (BD)?
- (1) Superficial thrombophlebitis
 - (2) Optic neuritis
 - (3) Chronic diarrhea
 - (4) Panuveitis
 - (5) Question not attempted
26. Which of the following is true about the ophthalmologic manifestations of Behcet's disease (BD)?
- (1) Ocular involvement is seen in 40-60% of patients with BD
 - (2) Recurrent attack can lead to glaucoma and cataract
 - (3) Ocular involvement can manifest as bilateral panuveitis
 - (4) All of these
 - (5) Question not attempted

27. Which of the following is not a part of ASAS 40 improvement criteria ?
 (1) BASFI
 (2) Physician global assessment
 (3) Pain
 (4) Morning stiffness
 (5) Question not attempted
28. Which of the following statement on Diffuse Idiopathic Skeletal Hyperostosis (DISH) is true ?
 (1) It is characterized by new bone formation into the enthesal regions.
 (2) It is more prominent on left side of the thoracic vertebra due to pressure effect of the aorta.
 (3) It is seen only in axial skeleton, sparing peripheral joints and entheses.
 (4) Patients with rheumatoid arthritis (RA) and DISH-RADISH tend to have more erosions and more destructive bone disease.
 (5) Question not attempted
29. Which of the following is a primary treatment of 2gG4-Related Disease (2gG4-RD)
 (1) Prednisone with a tapering dose over 10-16 weeks
 (2) Abatacept (Anti-CTLA4-Ig) as the first line therapy
 (3) Monotherapy with methotrexate
 (4) Long term glucocorticoids without additional immunosuppressive therapy
 (5) Question not attempted
30. What is the range of scores in the Birmingham Vasculitis Activity Score for GPA used for assessing disease activity in adult patients of Granulomatosis with Polyangitis ?
 (1) 0-63 (2) 0-56
 (3) 0-76 (4) 0-28
 (5) Question not attempted
31. Which of the following is a disease specific patient reported outcome measure in vasculitis ?
 (1) SF 36 (2) AAV PRO
 (3) BVAS-PRO (4) Euro-QoL
 (5) Question not attempted
32. Lupus Low Disease Activity State (LLDAS) is defined by all the following except :
 (1) No glucocorticoid use
 (2) SLEDAI-2K ≤ 4 without major organ activity or new disease activity
 (3) Physician global assessment ≤ 1
 (4) Well tolerated dosages of immunosuppressive drugs
 (5) Question not attempted
33. Which of the following cell types plays a central role in granuloma formation in sarcoidosis ?
 (1) CD8+ T cells
 (2) CD4+ Th1 cells
 (3) B-cells
 (4) Regulatory T cells (Tregs)
 (5) Question not attempted
34. Which is the most common cutaneous manifestation in cryoglobulinemic vasculitis ?
 (1) Cutaneous ulcer
 (2) Livedo reticularis
 (3) Raynaud's phenomenon
 (4) Purpura
 (5) Question not attempted
35. True about lymphocytic interstitial pneumonia (LIP) in a patient with primary Sjogren syndrome are all except :
 (1) It is the most common form of ILD in primary Sjogren syndrome
 (2) Characterized by lymphoplasmacytic infiltrates in interstitium and lymphoid aggregates around blood vessels
 (3) It may be precursor to BALT lymphoma
 (4) Sometimes associated with monoclonal gammopathy
 (5) Question not attempted

36. A 70 year old female is having continuous pain in her bilateral knees with swelling, pain in both wrist joints DIP both hands. She always felt feverish but never fever was measured. Her knee synovial fluid aspiration depicts slightly yellowish colour, TLC was ≤ 2000 cells/mm³, blood test were normal. She is probably suffering from -
 (1) OA knee (2) RA
 (3) Osteoporosis (4) Malignancy
 (5) Question not attempted
37. Which domains are not assessed in MDA, a psoriatic arthritis composite disease outcome measure?
 (1) Enthesitis (2) Dactylitis
 (3) Skin psoriasis (4) Arthritis
 (5) Question not attempted
38. A 40 year old female presented with proximal muscle weakness involving all four limbs for 2 days duration. On evaluation she was found to have metabolic acidosis with hypokalemia and she tested positive for anti-Ro antibodies. She denied any history to suggest oral or ocular dryness. Schirmer test was 7 and 9 mm in both eyes. Ocular staining score was 6 in both eyes and unstimulated whole salivary flow rate was 0.5 ml/min. Minor salivary gland biopsy showed focal lymphocytic sialadenitis with two focal aggregates of > 50 lymphocytes per 4 mm² area. Which of the following statement about this patient is true?
 (1) As patient denies history of ocular and oral sicca, she does not fulfil the ACR/EULAR classification criteria for primary Sjogren syndrome.
 (2) She fulfils the ACR/EULAR classification criteria for primary Sjogren syndrome with a score of 9.
 (3) Her unstimulated whole salivary flow was reduced.
 (4) She fulfils the inclusion criteria of the ACR/EULAR classification criteria for primary Sjogren syndrome and has a total score of 7.
 (5) Question not attempted
39. What are the common presenting features of Knee Osteoarthritis (OA)?
 (1) Pain and stiffness which improve on activity
 (2) Morning stiffness for more than 30 minutes
 (3) Crepitus, bony enlargement, and limited range of motion and pain
 (4) Severe erythema and joint swelling
 (5) Question not attempted
40. What is correct about focus score greater than or equal to one per 4 mm² of tissue on minor salivary gland biopsy in primary Sjögren's?
 (1) 10 or more lymphocytes
 (2) 20 or more lymphocytes
 (3) 40 or more lymphocytes
 (4) 50 or more lymphocytes
 (5) Question not attempted
41. Which of the following phenotypes of hand osteoarthritis is associated with different heritability patterns and may require distinct management strategies?
 (1) Interphalangeal (Nodal) disease
 (2) Carpometacarpal disease
 (3) Erosive OA
 (4) All of these
 (5) Question not attempted
42. Which of the following is the early event in the pathogenesis of systemic sclerosis?
 (1) Plasma cell maturation and production of autoantibodies
 (2) Dendritic cell activation through TLRs
 (3) T helper (Th) 2 T cell polarization
 (4) M2 macrophage driven fibroblast activation
 (5) Question not attempted
43. What is the recommended duration of Bisphosphonate treatment in osteoporosis before re-evaluation?
 (1) 1-2 years (2) 3-5 years
 (3) 6-7 years (4) 10 years
 (5) Question not attempted

44. After a full course of parathyroid hormone related compound, or anti-sclerostin antibody (Romosozumab) treatment, which of the following therapies is necessary ?
- (1) Estrogen therapy
 - (2) Bisphosphonate therapy
 - (3) Vitamin D supplementation
 - (4) Glucocorticoid and exercises
 - (5) Question not attempted
45. Which of the following drugs are considered to be the first line agents for treatment of Raynaud's phenomenon ?
- (1) Calcium channel blockers
 - (2) Phosphodiesterase-5 inhibitors
 - (3) Endothelin-1 receptor blocker
 - (4) Prostacyclin
 - (5) Question not attempted
46. Regarding myositis specific and myositis associated antibodies (MSA & MAAs), which of the following is not true ?
- (1) A negative antinuclear antibody (ANA) test does exclude the presence of MSAs in myositis
 - (2) SRP antibody is associated with severe necrotizing myopathy
 - (3) c.MDA-5 antibody is associated with cutaneous ulcerations & palmar papules
 - (4) d.TIF1-y is associated with cancer associated myositis (CAM)
 - (5) Question not attempted
47. A 34 year old male with a history of alcohol dependence presents with progressive groin pain and limited hip mobility. MRI reveals avascular necrosis of the femoral head. What could be the probable underlying cause of his condition ?
- (1) Direct toxic effect of alcohol on osteoblast.
 - (2) Ischemia due to fat embolism secondary to alcohol induced hepatic dysfunction.
 - (3) Compression fracture from alcohol related osteoporosis.
 - (4) Synovial inflammation with pannus formation.
 - (5) Question not attempted
48. A 12 year old boy presents with a limp and mild groin pain. On physical examination, there is limited internal rotation of the hip. Imaging reveals displacement of the femoral head epiphysis. Which of the following is most likely diagnosis and associated long term complication ?
- (1) Legg-Calve-Perthes disease ; Ankylosis of the hip
 - (2) Slipped capital femoral epiphysis (SCFE) ; Avascular necrosis of hip (Femoral head)
 - (3) Congenital hip dislocation ; OA in adolescence
 - (4) Juvenile idiopathic arthritis ; Joint fusion
 - (5) Question not attempted

49. Regarding management of inflammatory muscle diseases, which of the following is false ?
- (1) Daily oral corticosteroids are the primary initial therapy used to treat myositis.
 - (2) Azathioprine is considered to be as effective as methotrexate in managing patients with corticosteroid-resistant myositis.
 - (3) Rituximab and tofacitinib may have some positive response based on case series or case reports.
 - (4) Infliximab and/or etanercept have proven positive role in treatment resistant myositis.
 - (5) Question not attempted
50. The first line treatment of SAPHO syndrome generally includes -
- (1) Methotrexate
 - (2) NSAIDs
 - (3) Antibiotics
 - (4) Corticosteroids
 - (5) Question not attempted
51. All of the following are signs of disease activity in myositis except -
- (1) Decline in muscle strength
 - (2) Dyspnoea
 - (3) Myalgia
 - (4) Fatty infiltration on MRI
 - (5) Question not attempted
52. A major long-term complication of untreated IL-1 β driven auto-inflammation is :
- (1) Hepatic cirrhosis
 - (2) Pulmonary fibrosis
 - (3) Secondary AA Amyloidosis
 - (4) Bone-marrow suppression
 - (5) Question not attempted
53. The following are inflammasopathies and IL-1 driven auto-inflammatory disease except -
- (1) CAPS
 - (2) TRAPS
 - (3) VEXAS
 - (4) PAPA
 - (5) Question not attempted
54. Which of the following items has the highest weight/score in the ACR/EULAR 2016 classification criteria for primary Sjogren's syndrome ?
- (1) Anti-Ro/SS-A positive
 - (2) Ocular staining score ≥ 5 in at least one eye
 - (3) Schirmer test ≤ 5 mm/5 min in at least one eye
 - (4) Unstimulated whole saliva flow rate ≤ 0.1 mL/min
 - (5) Question not attempted
55. In Sjogren's Syndrome Disease Activity Index (ESSDAI), which of the following is not included ?
- (1) Hypocomplementemia
 - (2) Hypercomplementemia
 - (3) Hypergammaglobulinemia
 - (4) Hypogammaglobulinemia
 - (5) Question not attempted
56. The following statement regarding colchicine therapy in Familial Mediterranean Fever (FMF) is true ?
- (1) Colchicine should be discontinued in women planning pregnancy due to teratogenic risk.
 - (2) The primary side effect of colchicine are hepatotoxicity and nephrotoxicity.
 - (3) Colchicine remains the only medication proven to prevent secondary AA Amyloidosis in FMF.
 - (4) Colchicine is contraindicated in all patients with gastrointestinal symptoms.
 - (5) Question not attempted

57. For the lung involvement in Sjogren's syndrome, which of the following statement is false ?
- (1) Both UIP and NSIP type of ILD are seen in Sjogren's syndrome
 - (2) LIP is the most characteristic of Sjogren's syndrome
 - (3) Cystic lung disease in Sjogren's is usually symptomatic
 - (4) Cystic lung disease is present up to 20% of the patients with Sjogren's syndrome
 - (5) Question not attempted
58. A patient present with joint pain and is diagnosed with calcium pyrophosphate dihydrate (CPPD) deposition disease. The endocrine disorder which should be considered in evaluation is -
- (1) Hypothyroidism
 - (2) Primary hyperparathyroidism
 - (3) Addison's disease
 - (4) Acromegaly
 - (5) Question not attempted
59. Which of the following is characterized by the inability to press the palm together due to thick, tight and waxy skin over the hands in diabetic patients ?
- (1) Frozen shoulder
 - (2) Dupuytren's contracture
 - (3) Limited joint mobility syndrome (Cheiroarthropathy)
 - (4) Trigger finger
 - (5) Question not attempted
60. Which of the following musculoskeletal condition is caused by calcium hydroxyapatite crystal deposition in the tendon, specially in diabetics ?
- (1) Carpel tunnel syndrome
 - (2) Calcific shoulder tendinitis
 - (3) Charcot's osteoarthropathy
 - (4) Diabetic amyotrophy
 - (5) Question not attempted
61. Which of the following clinical feature is a negative predictor for a diagnosis of polyarteritis nodosa in a patient with suspected systemic vasculitis ?
- (1) Arteriographic abnormalities
 - (2) Mononeuropathy
 - (3) Cryoglobulinemia
 - (4) Positive hepatitis B serology
 - (5) Question not attempted
62. Essential criteria for diagnosis of scleroderma renal crisis include all except
- (1) New-onset BP > 150/85 mmHg or obtained at least twice over 24 hrs.
 - (2) Increase ≥ 20 mmHg from usual systolic BP
 - (3) Renal biopsy with typical features of SRC
 - (4) AKI stage 1 or higher : > 50% increase in serum creatinine from stable
 - (5) Question not attempted

63. Which of the following is a key mechanism contributing to the development of hemophilic arthropathy?
- (1) Autoimmune synovitis leading to cartilage erosion
 - (2) Recurrent joint bleeds triggering inflammatory and degenerative cascades
 - (3) Metabolic crystal deposition in the synovium
 - (4) Genetic mutation in collagen formation
 - (5) Question not attempted
64. Which of the following drugs was not shown to be effective in preventing relapses of mucocutaneous manifestations like oral and genital aphthae in patients with Behcet's disease?
- (1) Oral Glucocorticoids
 - (2) Oral Colchicine
 - (3) Oral Dapsone
 - (4) Oral Apremilast
 - (5) Question not attempted
65. All of the following mechanisms have been shown to be involved in monosodium urate (MSU) crystal induced activation of complement pathway, except:
- (1) Polyanionic surfaces of MSU crystals result in deposition of C3 and activation of downstream components of alternative pathway
 - (2) Direct binding and activation of C2 in the serum
 - (3) Classical pathway activation by MSU crystals by an immunoglobulin-independent and CRP-dependent pathway
 - (4) Classical pathway activation by immunoglobulins bound to MSU crystals
 - (5) Question not attempted
66. What is a key characteristic of a "target joint" in hemophilia?
- (1) Joint that is less likely to bleed
 - (2) Joint that has had fewer than three hemoarthrosis in the last 6 months
 - (3) Joint that has had three or more hemoarthrosis in the last 6 months
 - (4) Joint that always causes extreme pain
 - (5) Question not attempted
67. All of the following statements about treatment of hyperuricemia and gout are true, except:
- (1) Acute gout flares can be managed with anti-inflammatory drugs like colchicine, NSAIDs and corticosteroids.
 - (2) Anti-inflammatory prophylaxis should be given for at least 6 months after initiating urate lowering therapy.
 - (3) Serum urate target should be ≤ 6.0 mg/dL.
 - (4) IL-1 inhibitors like anakinra can be used as long-term anti-inflammatory prophylaxis therapy.
 - (5) Question not attempted
68. What score for skin will be scored as moderate in medsger systemic sclerosis severity scale?
- (1) TSS : 0
 - (2) TSS : 40+
 - (3) TSS : 15-29
 - (4) TSS : 30-39
 - (5) Question not attempted

69. Panniculitis with vasculitis is seen in
- (1) Erythema nodosum
 - (2) Lipodermatosclerosis
 - (3) Lupus profundus
 - (4) Erythema induratum
 - (5) Question not attempted
70. Which of these antibodies are associated with increased risk of cancer in scleroderma patients ?
- (1) Anti RNA polymerase III
 - (2) Anti topoisomerase
 - (3) Anti U3 RNP
 - (4) Anti Th/To
 - (5) Question not attempted
71. Which rheumatic disease is primarily encountered in HIV-infected individuals ?
- (1) Psoriatic arthritis
 - (2) Granulomatosis with Polyangitis
 - (3) HIV-associated Polymyositis + Granulomatosis with Polyangitis
 - (4) Gout
 - (5) Question not attempted
72. Which of the following is not a characteristic histopathological finding in patients with IgG4 related disease ?
- (1) Storiform fibrosis
 - (2) Obliterative phlebitis
 - (3) More than 40% IgG-positive plasma cells are IgG4-positive
 - (4) Granuloma formation
 - (5) Question not attempted
73. The diagnosis of primary CNS vasculitis typically includes evidence from -
- (1) Spinal fluid analysis
 - (2) Brain biopsy
 - (3) Brain and vascular imaging
 - (4) All of these
 - (5) Question not attempted
74. Which of the following outcome measure is used to assess pain in patients with hand osteoarthritis ?
- (1) WOMAC pain scale
 - (2) KOOS pain scale
 - (3) AUSCAN index
 - (4) HOOS pain scale
 - (5) Question not attempted
75. The classic finding most commonly found in GPA (Granulomatosis with Polyangitis) is -
- (1) Butterfly rash
 - (2) Cauliflower ear
 - (3) 'Saddle nose' deformity
 - (4) Raynaud's phenomenon
 - (5) Question not attempted
76. Which disease is commonly associated with relapsing polycondritis ?
- (1) RA, Magic syndrome
 - (2) OA
 - (3) Gout
 - (4) SLE alone
 - (5) Question not attempted

77. A 30-year old man presents with a 4-year history of chronic back pain and morning stiffness improving with activity. HLA-B27 is positive. Spinal radiographs are performed to evaluate for early structural changes. Which of the following best characterizes early radiographic changes of ankylosing spondylitis in the spine ?

(1) Central vertebral body sclerosis with disc space narrowing, due to enthesitis at the nucleus pulposus-annulus interface.

(2) Vertical marginal syndesmophyte formation arising from ligamentous ossification across intervertebral joints

(3) Focal corner erosion and sclerosis at the anterior vertebral margin, due to enthesitis of the annulus fibrosus insertion

(4) Horizontal bony projections across disc spaces representing non-marginal syndesmophytes, a hallmark of early disease

(5) Question not attempted

78. Which of the following is a cause of Panniculitis with prominent vasculitis ?

(1) Scleroderma

(2) Gout

(3) Subcutaneous PAN (Polyarteritis Nodosa)

(4) Lipodermatosclerosis

(5) Question not attempted

79. Which of the following radiographic finding suggests a diagnosis of adult onset Still disease over rheumatoid arthritis ?

(1) Peri-articular osteopenia at the wrist joint without erosions

(2) Selective radio-carpal joint space narrowing and erosions

(3) Selective carpo-metacarpal and intercarpal joint space narrowing and bony ankylosis

(4) Non-selective involvement of entire wrist joint with joint space narrowing and erosions

(5) Question not attempted

80. Which of the following immune check-point inhibitor targets both CTLA-4 and PD-1 ?

(1) Ipilimumab

(2) Nivolumab

(3) Ipilimumab/Nivolumab

(4) Atezolizumab

(5) Question not attempted

81. A 35-year old female presented with Raynaud's phenomenon associated with digital tip ulcers for last 1 year and progressive skin tightening involving limbs, face, neck and trunk. She was started on calcium channel blockers for Raynaud's, with which she had some improvement in symptoms. She came for regular checkup and was found to have blood pressure of 160/100 mmHg. She denies high blood pressure recordings in the past. What is the most appropriate next step in her management ?

(1) Regular blood pressure monitoring for next 2-3 weeks

(2) Add diuretics for control of blood pressure

(3) Add angiotensin receptor blockers like telmisartan for blood pressure control

(4) Immediately get renal function tests to look for serum creatinine to R/o scleroderma renal crisis

(5) Question not attempted

82. Which imaging technique is used to assist with diagnostic workup in suspected but not definite inflammatory joint disease ?
- (1) MRI
 - (2) Radiography
 - (3) Nuclear medicine
 - (4) All of these
 - (5) Question not attempted
83. Which of the following drugs is not FDA approved for management of fibromyalgia ?
- (1) Fluoxetine (2) Duloxetine
 - (3) Pregabalin (4) Milnacipran
 - (5) Question not attempted
84. Which biomarker is useful in predicting flares in SLE ?
- (1) CRP
 - (2) Serum amyloid A
 - (3) Anti-dsDNA antibody
 - (4) Procalcitonin
 - (5) Question not attempted
85. "Piano key sign" in RA is caused by
- (1) Tenosynovitis of extensor carpi ulnaris
 - (2) Tenosynovitis of extensor digitorum communis
 - (3) Laxity of radioulnar ligament
 - (4) Rupture of extensor carpi radialis
 - (5) Question not attempted
86. Which of the following statements about the clinical features of eosinophilic granulomatosis with polyangiitis (EGPA) is not true ?
- (1) Neuropathy is more common in EGPA than in GPA or MPA
 - (2) Myocarditis is more common in EGPA than in GPA or MPA
 - (3) Alveolar haemorrhage is uncommon in EGPA
 - (4) Upper airway involvement is common in EGPA and is usually destructive
 - (5) Question not attempted
87. Which of the following statements regarding RPC (Relapsing Poly Chondritis) is false ?
- (1) It is characterized by inflammation of cartilaginous structure.
 - (2) It always present with positive ANA antibodies.
 - (3) It can affect airways, eyes and vessels.
 - (4) Cauliflower ear and saddle nose sign are classic to RPC.
 - (5) Question not attempted
88. Which of the following regarding Van Der Heijde-Sharp Score of radiographic damage in RA is true ?
- (1) Maximum score for erosion is 280 and for joint space narrowing is 168
 - (2) 44 joints scored for erosion and 38 joints scored for joint space narrowing
 - (3) For feet, 10 joints are scored for erosion
 - (4) Total score is 440
 - (5) Question not attempted
89. Which of the following systemic disease is most commonly associated with Pyoderma Gangrenosum ?
- (1) SLE – Systemic Lupus Erythematosus
 - (2) IBD (Inflammatory Bowel Disease)
 - (3) SSc (Systemic Sclerosis)
 - (4) AS (Ankylosing Spondylitis)
 - (5) Question not attempted

90. As per the 2012 revised International Chapel Hill consensus conference nomenclature of vasculitides, which of the following vasculitis is categorized as variable vessel vasculitis ?

- (1) Polyarteritis nodosa
- (2) Rheumatoid vasculitis
- (3) Cogan's syndrome
- (4) Cryoglobulinemic vasculitis
- (5) Question not attempted

91. Regarding Rheumatoid Factor-Negative Polyarticular Juvenile Idiopathic Arthritis which of the following is false ?

- (1) Arthritis affecting ≥ 4 joints during the first 6 months of disease
- (2) 10-30% of all JIA cases
- (3) It has a bimodal distribution
- (4) Girls are more commonly affected than boys in 3.2 : 1 ratio
- (5) Question not attempted

92. Gain of function mutation in NACHT domain (exon 4) of NOD2/CARD15 gene results in which of the following disorder ?

- (1) Blau syndrome
- (2) Spondyloenchondrodysplasia with immune dysregulation
- (3) Majeed syndrome
- (4) Familial cold-induced auto-inflammatory syndrome 2 (FCAS2)
- (5) Question not attempted

93. Regarding Neonatal Lupus (NLE) which of the following is false ?

- (1) NLE is a passive autoimmune condition caused by transfer of circulating maternal autoantibodies to the fetal.
- (2) NLE develops in only 1% to 2% of children born to mothers with these circulating antibodies.
- (3) Inflammatory changes related to NLE resolve typically within 1 month.
- (4) The maternal autoantibodies associated with the vast majority of NLE cases are anti-Ro/SS-A (or anti-SSA) and anti-LA/SS-B (or anti-SSB).
- (5) Question not attempted

94. A 13 year old child present with seizure, psychosis and mood swings. Which of the following system is mostly involved in SLE ?

- (1) Cardiovascular
- (2) Musculoskeletal
- (3) Neuropsychiatric
- (4) Renal
- (5) Question not attempted

95. Regarding paediatric onset systemic sclerosis all of the following are true except :

- (1) Prevalence of anti-Centromere antibody is much less compared to adult population.
- (2) RNA polymerase III is much less prevalent compared to adult population.
- (3) Amongst the paediatric onset systemic sclerosis 10-39% of paediatric patients have overlap syndrome.
- (4) U-1 RNP is less prevalent in paediatric onset systemic sclerosis.
- (5) Question not attempted

96. Which of the following drugs is currently the only one approved by the US FDA specifically for the treatment of childhood-onset SLE ?

- (1) Methotrexate
- (2) Rituximab
- (3) Belimumab
- (4) Cyclophosphamide
- (5) Question not attempted

97. Which of the following is the most common extra-articular manifestation in JIA ?

- (1) Fever
- (2) Rash
- (3) Uveitis
- (4) Lymphadenopathy
- (5) Question not attempted

98. Which of the following precautions is most important when prescribing hydroxyl-chloroquine to a young child with SLE ?

- (1) Regular liver functioning monitoring
- (2) Routine ophthalmology screening
- (3) Bone marrow suppression monitoring
- (4) Monitoring creatine-kinase levels
- (5) Question not attempted

99. First line treatment for Kawasaki disease is

- (1) Glucocorticoids
- (2) IV immunoglobulins (2g/kg) single dose with high-dose aspirin
- (3) Infliximab (10 mg/kg) single dose
- (4) Plasmapheresis
- (5) Question not attempted

100. Which of the following drugs, being studied in osteoarthritis, acts by targeting the nerve growth factor (NGF) pathway ?

- (1) Tanezumab
- (2) Sprifermin
- (3) Lorecivivint
- (4) Lutikizumab
- (5) Question not attempted

101. A 55-year old male, diagnosed with rheumatoid arthritis, was taking oral methotrexate 20 mg/week, for last 1 year. He is in remission and came for follow up. He wants information regarding influenza vaccination. Which of the following statements is true ?

- (1) Influenza vaccination is not recommended for him.
- (2) There is no need to stop methotrexate.
- (3) Withhold methotrexate for 2 weeks before and 2 weeks after vaccination.
- (4) Withhold methotrexate for 2 weeks after vaccination.
- (5) Question not attempted

102. Which of the following JAK inhibitors is only JAK1 inhibitor ?

- (1) Tofacitinib
- (2) Baricitinib
- (3) Upadacitinib
- (4) Peficitinib
- (5) Question not attempted

103. What type of vaccine is permissible during anti-cytokine therapy ?

- (1) Live attenuated vaccine
- (2) Recombinant vaccine
- (3) BCG vaccine
- (4) Oral polio vaccine
- (5) Question not attempted

104. Which of the following DMARDs require a dose adjustment in older patients based on creatinine clearance (CrCl) ?

- (1) Leflunamide
- (2) Methotrexate
- (3) Sulfasalazine
- (4) Hydroxychloroquine
- (5) Question not attempted

105. Which of the following best exemplifies a personalized medicine approach when prescribing NSAIDs ?

- (1) Prescribing the same NSAID at standard dose for all adult regardless of health conditions.
- (2) Choosing NSAIDs based on a cost effectiveness alone.
- (3) Selecting an NSAID considering cox selectivity, comorbidities and potential drug interactions.
- (4) Avoiding NSAIDs entirely due to their cardiovascular risk.
- (5) Question not attempted

106. Swan neck deformity is due to

- (1) Dislocation of first CMC joint, MCP hyperextension and IP flexion
- (2) Dislocation of first CMC joint, MCP flexion and IP hyperextension
- (3) MCP joint flexion and IP joint hyperextension
- (4) Both MCP joint and IP joint flexion
- (5) Question not attempted

107. What is the recommended strategy to improve vaccine response in patients undergoing DMARD therapy ?

- (1) Vaccination after starting DMARD therapy to allow maximum immune response.
- (2) Holding DMARD therapy indefinitely after vaccination.
- (3) Vaccination prior to initiating DMARD therapy and in some cases, temporarily holding DMARDs post-vaccination.
- (4) Avoiding vaccination altogether in patients on DMARD therapy.
- (5) Question not attempted

108. Identify the correct statement with regards to the minor salivary gland biopsy ?

- (1) A focus is defined as a cluster of 20 or more lymphocytes.
- (2) For a focus to be significant they should be located adjacent to normal appearing acini in lobules with significant duct dilatation and fibrosis.
- (3) Mixed lymphocytic and plasma cell infiltration with atrophic acini may be seen in elderly individuals with non specific sialadenitis.
- (4) The specificity of a focus score > 1 for the diagnosis of Sjogren's syndrome is almost 100%.
- (5) Question not attempted

109. The following feature is correct about Anti-CCP anti-body assay :

- (1) Anti-CCP1 is more sensitive than pooled linear peptide assay.
- (2) Anti-CCP2 assay are more specific but less sensitive than CCP3.
- (3) Anti-CCP3.1 detects only IgG isotypes.
- (4) Anti-CCP tests can only detect antibodies against filaggrin.
- (5) Question not attempted

110. What is the principal histopathological finding in Erythema elevatum diutinum ?

- (1) Fibrin deposition with palisading epithelioid histiocytes
- (2) Leukocytoclastic vasculitis with fibrinoid necrosis
- (3) Septal panniculitis with vasculitis
- (4) Necrotising granulomas
- (5) Question not attempted

111. Which of the following statements is accurate regarding synovial biopsy ?

- (1) Synovial biopsy is only useful in polyarthritis
- (2) Histopathologic feature of synovitis are always diagnostic
- (3) Synovial biopsy can be valuable in diagnosing persistent monoarthritis
- (4) Biopsy findings always determine exact etiology
- (5) Question not attempted

112. Anti-dsDNA is considered to be a highly specific antibody for systemic lupus erythematosus. Which of the following is considered as the gold standard for testing this auto-antibody ?

- (1) Crithidia Lucilae Immunoassay
- (2) Farr Radioimmunoassay
- (3) ELISA
- (4) Immunoprecipitation
- (5) Question not attempted

113. Which skin finding is most characteristic of the reactive arthritis ?

- (1) Discoid rash
- (2) Circinate balanitis
- (3) Malar rash
- (4) Gottron's papule
- (5) Question not attempted

114. True statements about muscle biopsy features in inflammatory myopathies are all except :

- (1) Class I MHC is expressed even in non-necrotic muscle cells distant from lymphocytic infiltration.
- (2) Dermatomyositis is predominantly characterized by perivascular inflammatory infiltrate composed mainly by CD4+ T cells, macrophages and dendritic cells.
- (3) Polymyositis is predominantly characterized by endomysial inflammatory infiltrate composed mainly by CD8+ T cells and macrophages.
- (4) Immune mediated necrotising myopathy is characterised by necrotic muscle fibres with extensive CD4+ T cell infiltrates.
- (5) Question not attempted

115. Match the following autoantibody with its autoantigen :

- | | |
|-----------------|-----------------------------|
| I. Anti-Sm | A. Nucleosomes |
| II. Anti-Jo1 | B. snRNPs |
| III. Anti-dsDNA | C. Histidyl-tRNA synthetase |
| IV. Anti-PCNA | D. DNA Polymerase δ |

- | | | | |
|----------------------------|----|-----|----|
| I | II | III | IV |
| (1) D | B | A | C |
| (2) D | C | A | B |
| (3) B | C | A | D |
| (4) A | C | D | B |
| (5) Question not attempted | | | |

116. Identify the correct statement regarding Ragocytes in synovial fluid :

- (1) They are monocytes with phagocytosed material.
- (2) The highest percentage of ragocytes are seen in septic arthritis.
- (3) Ragocyte count of >95% are highly specific for rheumatoid arthritis.
- (4) Presence of ragocytes in synovial fluid excludes the possibility of crystal arthritis.
- (5) Question not attempted

117. All are true about obesity and RA except

- (1) Obesity is not associated with development of RA.
- (2) Abdominal fat is associated with inflammatory load in RA.
- (3) Obesity induces pro inflammatory characterized by impaired anti-inflammatory treatment response.
- (4) Adipose tissue is metabolically active.
- (5) Question not attempted

118. What complication of pregnancy in women with autoimmune disease can cause proteinuria and decreased glomerular filtration rate (GFR) ?

- (1) HELLP syndrome
- (2) APS nephropathy
- (3) Pre-eclampsia
- (4) Active disease
- (5) Question not attempted

119. What is the primary factor that contributes to the increased cardiovascular disease (CVD) risk with inflammatory rheumatic disease like RA and SLE ?

- (1) High cholesterol level
- (2) Systemic inflammation and immune dysfunction
- (3) Smoking and physical inactivity
- (4) Age-related factors
- (5) Question not attempted

120. A study design that tests whether an intervention works in real-life practice setting is called as

- (1) Pragmatic clinical trial
- (2) Prospective cohort study
- (3) Adaptive clinical trials
- (4) Cluster randomized implementation trial
- (5) Question not attempted

121. Which of the following is most strongly associated with an increased risk of Lymphoma in patients of RA ?

- (1) Presence of rheumatoid factor (RF)
- (2) Smoking
- (3) Early disease course
- (4) Male gender
- (5) Question not attempted

122. Which of the following is a positive regulator of complement system ?

- (1) Factor H (2) Factor P
- (3) C1-INH (4) MCP
- (5) Question not attempted

123. Which of the following is not a true statement about complement deficiencies ?

- (1) C1q deficiency is most strongly associated with SLE.
- (2) Factor D deficiency is inherited in an autosomal dominant form.
- (3) C2 deficiency is most common amongst early complement deficiencies.
- (4) Factor D deficiency is a susceptibility factor for SLE.
- (5) Question not attempted

124. Which of the following statements about T cell receptors (TCRs) is true ?

- (1) Conventional $\alpha\beta$ TCRs have limited diversity for antigen detection.
- (2) $\gamma\delta$ TCRs can recognize antigens without MHC restriction.
- (3) Natural killer T cells have TCRs that recognise peptide antigens presented by MHC II molecules.
- (4) Mucosa-associated invariant T (MAIT) cells have TCRs with highest diversity.
- (5) Question not attempted

125. C-reactive protein belongs to which of the following family of soluble pattern recognition receptors (PRRs) ?

- (1) Ficolins
- (2) Collectins
- (3) Short pentraxins
- (4) Long pentraxins
- (5) Question not attempted

126. Regulatory T cells that suppress immune responses typically arises during which type of tolerance ?

- (1) Central tolerance in bone marrow
- (2) Peripheral tolerance in secondary lymphoid organs
- (3) Negative selection in Peyer's patches
- (4) Clonal anergy in the thymus
- (5) Question not attempted

127. Which of the following event occurs if a developing B cell's receptor show excessive reactivity to self-antigen in the bone marrow ?

- (1) The B cell undergoes receptor editing or apoptosis
- (2) The B cell undergoes clonal expansion
- (3) The B cell is permitted to mature into plasma cell
- (4) The B cell becomes a regulatory B cell
- (5) Question not attempted

128. Monogenic deficiency of FOXP3 gene, which is required for Treg development, is associated with :

- (1) APECED syndrome
- (2) IPEX syndrome
- (3) Canale-Smith syndrome
- (4) Aicardi-Goutieres syndrome
- (5) Question not attempted

129. Not a true statement about T-cell receptor :

- (1) TCR is not itself an effector molecule, unlike BCR
- (2) TCR is only found as a cell surface structure and not secreted
- (3) TCR is not altered throughout lifetime of the cell, once expressed on a T cell
- (4) T cells respond to native antigen, recognizing large molecular conformations
- (5) Question not attempted

130. The following structures in the joint are innervated by nociceptors, except :

- (1) Adult cartilage
- (2) Infrapatellar fat pad
- (3) Synovium
- (4) Outer third of menisci
- (5) Question not attempted

131. Which cytokine is more potent on a molar basis in terms of cartilage matrix degradation ?

- (1) TNF
- (2) IL-1 β
- (3) IL-6
- (4) IL-1 α
- (5) Question not attempted

132. All of the following promote osteoclast activity and/or differentiation except

- (1) Anti citrullinated protein antibodies
- (2) CTLA4
- (3) M-CSF
- (4) IL-17
- (5) Question not attempted

133. Which of the following is not a correct match of hypersensitivity reaction ?

- (1) Graves' disease : Type II
- (2) Anti-neuronal antibody mediated CNS lupus : Type III
- (3) Autoimmune hemolytic anaemia : Type II
- (4) Type 1 diabetes mellitus : Type IV
- (5) Question not attempted

134. Identify the correct sequence of immunological responses in experimental acute serum sickness.

- (1) Injection of antigen, free antibodies in serum, immune complex formation and deposition in tissues, tissue damage, complement activation
- (2) Injection of antigen, formation of specific antibody, immune complex formation and deposition in tissues, complement activation, tissue damage, free antibodies in serum
- (3) Injection of antigen, formation of specific antibody, free antibodies in serum, immune complex formation and deposition in tissues, tissue damage, complement activation
- (4) Injection of antigen, formation of specific antibody, free antibodies in serum, immune complex formation and deposition in tissues, complement activation, tissue damage
- (5) Question not attempted

135. Which of the following is a characteristic feature of β -Thalassemia major ?

- (1) Mild anaemia
- (2) Severe anaemia with extra-medullary hematopoiesis
- (3) No anaemia
- (4) Hypochromic, microcytic anaemia without other symptoms
- (5) Question not attempted

136. In which condition would you expect to see a 'cauliflower deformity' ?

- (1) Systemic lupus erythematosus
- (2) Relapsing polychondritis
- (3) Rheumatoid arthritis
- (4) Scleroderma
- (5) Question not attempted

137. Which of the following patterns of onset of rheumatoid arthritis is the most common ?
- (1) Acute onset oligoarticular
 - (2) Acute onset polyarticular
 - (3) Insidious onset polyarticular
 - (4) Palindromic rheumatism
 - (5) Question not attempted
138. Which of the following imaging techniques are 'most sensitive' and 'most commonly' used to monitor disease activity in rheumatoid arthritis ?
- (1) Ultrasonography and Radiography
 - (2) MRI and Ultrasonography
 - (3) CT Scan and Radiography
 - (4) MRI and Radiography
 - (5) Question not attempted
139. Therapy of choice in people with well controlled HIV infection, suffering from active inflammatory arthritis is
- (1) NSAIDs
 - (2) Hydroxychloroquine
 - (3) TNF inhibitor monotherapy
 - (4) Methotrexate
 - (5) Question not attempted
140. A 14 year-old boy with known Hemophilia-A present to emergency department with acute onset left groin and lower back pain while playing soccer. The pain worsened on hip extension but hip rotation is unaffected. He remained in flexed position. On examination, there was no visible swelling but the area is tender on deep palpation. Lab reports show prolonged aPTT and a mild drop in hemoglobin. What is the most likely diagnosis, and what serious complication should be monitored ?
- (1) Psoas Abscess ; sepsis
 - (2) Iliopsoas hemorrhage ; compartment syndrome
 - (3) Femoral hernia ; strangulation
 - (4) Groin muscle strain ; avascular necrosis
 - (5) Question not attempted
141. Most common joint involved in Lyme's arthritis is
- (1) Knee
 - (2) Ankle
 - (3) Wrist
 - (4) Sternoclavicular
 - (5) Question not attempted
142. As per the ASAS classification criteria for axial spondyloarthritis, which of the following is not a spondyloarthritis feature ?
- (1) Inflammatory back pain
 - (2) Elevated ESR
 - (3) Elevated CRP
 - (4) Arthritis
 - (5) Question not attempted
143. Which molecular feature of anti-dsDNA antibodies most directly enhances their high-affinity binding to DNA ?
- (1) O-linked glycosylation in the FC region
 - (2) High sialylation of the hinge region
 - (3) Presence of arginine residues in CDR3 region
 - (4) Increased hydrophobicity of the CH2-domain
 - (5) Question not attempted
144. Which among the following is true about "target joint" in hemophilic arthropathy ?
- (1) Joint that is more susceptible to subsequent bleeds
 - (2) Joint in which 3 or more bleeds have occurred in prior 6 months
 - (3) Ankle is most common target joint
 - (4) All of these
 - (5) Question not attempted
145. All of the following characteristics are typical of inflammatory back pain, except :
- (1) Located at mid and upper back
 - (2) Onset of symptoms before 45 years age
 - (3) Morning stiffness for atleast 30 minutes
 - (4) Improvement of symptoms with exercises
 - (5) Question not attempted

146. A 45-year old male, case of chronic kidney disease for last 2 years, presented with one week history of fever and right knee joint pain, swelling and redness. On examination, right knee was swollen, warm, tender and the patient was not allowing to check for movements at knee. Rest of the joints were normal on examination. What is the next best step in the management of this patient ?

- (1) Start colchicine for acute gout
- (2) Diagnostic joint fluid aspiration
- (3) Give intra-articular glucocorticoids to relieve symptoms
- (4) Start low dose oral glucocorticoids and observe for response in next 1-2 weeks
- (5) Question not attempted

147. Which of the following statements regarding venous thromboembolism (VTE) risk in rheumatoid arthritis (RA) patients is most accurate ?

- (1) The absolute risk of VTE in RA patients is lower than in the general population due to the anti-inflammatory effects of common RA medications.
- (2) While JAK inhibitor therapy has shown elevated relative risks for VTE compared to TNF inhibitor therapy, the incremental absolute rate difference is small.
- (3) The increased VTE risk associated with JAK inhibitors is definitively established and warrants their avoidance in all RA patients, regardless of other VTE risk factors.
- (4) Traditional VTE risk factors such as hypertension and smoking are less significant in RA patients because the systemic inflammation of RA is the primary driver of VTE events.
- (5) Question not attempted

148. When considering cardiovascular (CV) risk assessment in patients with rheumatoid arthritis (RA), which of the following is the most pertinent distinction between the ACC/AHA Pooled Cohort Equation, SCORE, and QRISK algorithms ?

- (1) Only the ACC/AHA Pooled Cohort Equation and SCORE algorithms incorporate a 1.5 × multiplier to account for the increased CV risk in inflammatory conditions like RA.
- (2) The QRISK algorithm is unique in that it was developed within the general population of the United Kingdom and subsequently validated specifically in RA cohorts.
- (3) The SCORE algorithm is the only one that explicitly includes RA disease activity, as measured by biomarkers, as a direct input for CV risk prediction.
- (4) While all three algorithms include traditional CV risk factors, QRISK is explicitly noted to represent RA as a risk factor.
- (5) Question not attempted

149. Which of the following viral infections is associated with the development of Diffuse Infiltrative Lymphocytosis Syndrome (DILS) ?

- (1) HIV
- (2) HBV
- (3) Chikungunya
- (4) Parvovirus B19
- (5) Question not attempted

150. Which of the following features are not a common feature of Giant Cell Arteritis (GCA) ?

- (1) Headache
- (2) Scalp tenderness
- (3) Joint pain and synovitis
- (4) Visual disturbances
- (5) Question not attempted

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148. When considering cardiovascular (CV) risk assessment in patients with rheumatoid arthritis (RA), which of the following is the most pertinent distinction between the ACCA and QRISK algorithms?
- (1) Only the ACCA Tool Cohort Function and SCORE algorithm incorporate a 15 multiplier to account for the increased CV risk in inflammatory conditions like RA.
- (2) The QRISK algorithm is unique in that it was developed within the general population of the United Kingdom and subsequently validated specifically in RA cohorts.
- (3) The SCORE algorithm is the only one that explicitly includes RA disease activity, as measured by biomarkers, as a direct input for CV risk prediction.
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