



5310433

प्रश्न-पुस्तिका क्रम संख्या
Question Booklet No.

अनुक्रमांक
Roll No.

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SET

A

RSAE/2024/C
Civil Engineering

परीक्षार्थी अपना अनुक्रमांक दिए गए खानों में लिखें।
Candidate should write his/her Roll No.
in the given boxes.

मुद्रित पृष्ठों की संख्या / No. of Printed Pages : 40
समय / Time : 03 घण्टे / 03 Hours

कुल प्रश्नों की संख्या / Total No. of Questions : 150
पूर्णांक / Total Marks : 450

परीक्षार्थियों के लिए निर्देश

1. परीक्षा प्रारंभ होने के तुरन्त बाद, आप इस प्रश्न-पुस्तिका की पड़ताल अवश्य कर लें, कि इसमें कोई बिना छपा, फटा या छूटा हुआ पृष्ठ अथवा प्रश्नांश, आदि न हो। यदि ऐसा है, तो वीक्षक से तत्काल संपर्क कर प्रश्न-पुस्तिका बदल लेवें।
2. यह प्रश्न-पुस्तिका सम्मिलित रूप से दो खण्डों में विभाजित है, खण्ड – 'अ' तथा खण्ड – 'ब'।
3. खण्ड – 'अ' के प्रश्न सामान्य अध्ययन से संबंधित है, जिसमें कुल 50 प्रश्न हैं। सभी प्रश्न हिन्दी तथा अंग्रेजी भाषा में हैं। सभी प्रश्न अनिवार्य हैं।
4. खण्ड – 'ब' के प्रश्न सिविल इंजीनियरिंग विषय से हैं, जिसमें कुल 100 प्रश्न हैं। सभी प्रश्न अंग्रेजी भाषा में हैं। सभी प्रश्न अनिवार्य हैं। अभ्यर्थी स्वयं यह सुनिश्चित कर लें कि जिस पद हेतु आवेदन किया है वही विषय का प्रश्न-पत्र प्राप्त हुआ है।
5. सभी प्रश्नों के अंक समान हैं। प्रत्येक सही उत्तर के लिए 03 अंक प्रदान किए जायेंगे। परीक्षा योजना नुसार क्रणात्मक मूल्यांकन का प्रावधान है। प्रत्येक गलत उत्तर के लिए 01 अंक काटा जायेगा।
6. प्रदत्त उत्तर-पत्र (ओ.एम.आर.) पर दिए गए निर्देशों को ध्यानपूर्वक पढ़ें तथा अपने उत्तर तदनुसार अंकित करें।
7. कृपया उत्तर-पत्र (ओ.एम.आर.) पर निर्धारित स्थानों पर आवश्यक प्रविष्टियाँ करें, अन्यत्र स्थानों पर नहीं।
8. परीक्षार्थी सभी रफ़ कार्य प्रश्न-पुस्तिका के अंतिम पृष्ठ पर निर्धारित स्थान पर ही करें, अन्यत्र कहीं नहीं तथा उत्तर-पत्र (ओ.एम.आर.) पर भी नहीं।
9. यदि किसी प्रश्न में किसी प्रकार की कोई मुद्रण या तथ्यात्मक प्रकार की त्रुटि हो, तो प्रश्न के हिन्दी तथा अंग्रेजी रूपांतरों में से हिन्दी रूपांतर को मानक माना जाएगा। (खण्ड-अ के सन्दर्भ में)

INSTRUCTIONS TO THE CANDIDATES

1. Immediately after the commencement of the examination, you should check that this Question Booklet *does not* have any unprinted or torn or missing pages or items etc. If so, immediately contact the Invigilator and get it replaced with Question Booklet.
2. This combined Question Booklet is divided in **two** Sections, Section-'A' and Section-'B'.
3. Section-'A' contains **50** questions of **General Studies**. All questions are in Hindi and English language. All questions are compulsory.
4. Section-'B' contains **100** questions of **Civil Engineering** subject. All questions are in English language. All questions are compulsory. Candidates should ensure that he/she has got the question paper of the same post for which he/she had applied.
5. All questions carry equal marks. **Three (03)** marks will be given for each **correct** answer. There is provision of **Negative Markings** as per examination plan. For each wrong answer, **One (01)** mark will be deducted.
6. Read carefully the instructions given on the Answer Sheet (OMR) supplied and indicate your answers accordingly.
7. Kindly make necessary entries on the Answer Sheet (OMR) at the places indicated and nowhere else.
8. Examinee should do all rough work on the space meant for rough work on pages given at the end of the Question Booklet and nowhere else, not even on the Answer Sheet (OMR).
9. If there is any sort of mistake either of printing or of factual nature in any question, then out of the Hindi and English versions of the question, the Hindi version will be treated as standard (with ref. to Section-A).



खण्ड-‘अ’ - सामान्य अध्ययन



1. निम्न में से किस स्थान से ‘वन्या सामुदायिक रेडियो केन्द्र’ का संचालन नहीं किया जा रहा है?

- A. मेघनगर (झाबुआ)
- B. खालवा (खण्डवा)
- C. सैलाना (रतलाम)
- D. बिजौरी (छिन्दवाड़ा)

2. निम्नलिखित में से कौन-सा क्लाउड कंप्यूटिंग का एक प्रमुख लाभ है?

- A. बिजली की खपत में वृद्धि
- B. भौतिक संग्रहण पर निर्भरता
- C. वर्चुअलाइजेशन एवं बेहतर सर्वर उपयोगिता
- D. सीमित संसाधन पहुँच

3. कौन-सा युग्म सुमेलित नहीं है?

- A. फाजिल मुहम्मद - गढ़ा अम्बापानी
- B. राजा बखतबली - शाहगढ़
- C. रघुनाथ मण्डलोई - बडवानी
- D. फरजंद अली - धार

4. ‘पेपर्स रिलेटिंग टु द एबोरीजनल ट्राइब्स ऑफ सेन्ट्रल प्रोविन्सेस’ के लेखक कौन थे?

- A. जॉन मॉलकम
- B. स्टीफेन हिस्लॉप
- C. हीरालाल
- D. एलविन वेरियर

5. वर्ष 2023-24 में मध्य प्रदेश में प्राथमिक और माध्यमिक स्तर पर ड्रॉपआउट दर किसकी अधिक थी?

- A. दोनों स्तर पर लड़कों की
- B. प्राथमिक स्तर पर लड़कों की, माध्यमिक में लड़कियों की
- C. दोनों स्तर पर लड़कियों की
- D. प्राथमिक स्तर पर लड़कियों की व माध्यमिक स्तर पर लड़कों की

6. इनमें से कौन-सी नदी सतपुड़ा पर्वत से उत्पन्न होकर दक्षिण की ओर प्रवाहित होती है?

- A. जोहिला
- B. बंजार
- C. वैनगंगा
- D. तवा

7. कुंवरामठ एवं जालपादेवी मंदिर दोनों ही किस एक स्थान पर स्थित हैं?

- A. जसो, (सतना)
- B. उदयगिरी, (विदिशा)
- C. कर्दमेश्वरनाथ, (होशंगाबाद)
- D. रामवन, (बुरहानपुर)

8. मध्य प्रदेश उच्च न्यायालय के प्रथम मुख्य न्यायाधीश कौन हैं?

- A. माननीय न्यायमूर्ति पी. वी. दीक्षित
- B. माननीय न्यायमूर्ति जी. पी. भट्ट
- C. माननीय न्यायमूर्ति एम. हिदायतुल्ला
- D. माननीय न्यायमूर्ति विशम्भर दयाल



Section-'A' - General Studies

1. Which of the following place is not broadcasting 'Vanya Community Radio Center'?

- A. Meghnagar (Jhabua)
- B. Khalwa (Khandwa)
- C. Sailana (Ratlam)
- D. Bijouri (Chhindwara)

2. Which of the following is a key advantage of cloud computing?

- A. Increased power consumption
- B. Physical storage dependency
- C. Virtualization and better server utilization
- D. Limited Resource access

3. Which pair is not correctly matched?

- A. Fazil Muhammad - Gada ambapani
- B. Raja Bakhatbali - Shahgarh
- C. Raghunath Mandloi - Badwani
- D. Farjand Ali - Dhar

4. Who was the author of the 'Papers Relating to the Aboriginal Tribes of Central Provinces'?

- A. John Malcolm
- B. Stephen Hislop
- C. Heeralal
- D. Elwin Verrier

5. In the year 2023-24, whose dropout rate was higher at both the primary and secondary levels in Madhya Pradesh?

- A. Boys at both levels
- B. Boys at primary, girls at secondary
- C. Girls at both levels
- D. Girls at primary, boys at secondary

6. Which of these rivers originating from Satpura mountains flows towards the south?

- A. Johilla
- B. Banjar
- C. Wainganga
- D. Tawa

7. In which one place are both Kunvaramath and Jalpa devi temple located?

- A. Jaso, (Satna)
- B. Udaigiri, (Vidisha)
- C. Kardameshwarnath (Hoshangabad)
- D. Ramvan (Burhanpur)

8. Who is the first Chief Justice of Madhya Pradesh High Court?

- A. Hon'ble Justice P. V. Dixit
- B. Hon'ble Justice G. P. Bhutt
- C. Hon'ble Justice M. Hidayatullah
- D. Hon'ble Justice Bishambhar Dayal



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9. मध्य प्रदेश के किस जनजातीय क्रांतिकारी का निधन आजीवन कारावास की सजा के दौरान अण्डमान की जेल में हुआ?

- A. क्रांतिकारी नवल शाह
- B. क्रांतिकारी निजाम शाह
- C. क्रांतिकारी भीमा नायक
- D. क्रांतिकारी रघुवीर सिंह मण्डलोई

10. गुप्तसंवत् 156 के खोह अभिलेख में उल्लेखित महाराजा हस्तिन का संबंध निम्न में से किस वंश से है?

- A. उच्चकल्प
- B. राजर्षितुल्य
- C. परिद्राजक
- D. नल

11. रामनगर शिलालेख के अनुसार गढ़ा के गोंड राज्य का संस्थापक कौन था?

- A. यादवराय
- B. हृदयशाह
- C. सुमेर सिंह
- D. वीर नारायण

12. भारतीय रेलवे रिपोर्ट 2023-24 के अनुसार रेलवे नेटवर्क की दृष्टि से मध्य प्रदेश का देश में कौन-सा स्थान था?

- A. छठवां
- B. तीसरा
- C. पाँचवां
- D. चौथा

13. व्यापक जनजातीय समाज में मनाया जाने वाला उत्सव 'करमा' का नामकरण किसके नाम पर किया गया है?

- A. एक देवी के नाम पर
- B. एक वृक्ष के नाम पर
- C. एक नदी के नाम पर
- D. उपरोक्त में से कोई नहीं

14. भारत के प्रधानमंत्री द्वारा दिनांक 19 जून 2025 को किस भारतीय शतरंज खिलाड़ी को लंदन में वर्ल्ड टीम बिल्टज प्रतियोगिता के सेमीफाइनल के दूसरे चरण में विश्व की नंबर 01 खिलाड़ी होऊ यिफान को हराने पर बधाई दी?

- A. आर. वैशाली
- B. सौम्या स्वामीनाथन
- C. दिव्या देशमुख
- D. हरिका द्रोणावल्ली

15. पवन ऊर्जा क्षमता में (31 मई 2025 की स्थिति में) मध्य प्रदेश का देश में कौन-सा स्थान था?

- A. आठवां
- B. सातवां
- C. छठवां
- D. पाँचवां



9. Which tribal revolutionary of Madhya Pradesh died in Andaman Jail during his life sentence?

- A. Revolutionary Naval Shah
- B. Revolutionary Nizam Shah
- C. Revolutionary Bhima Nayak
- D. Revolutionary Raghuvir Singh Mandloi

10. Maharaja Hastin, mentioned in the Khoh inscription of Guptasvat 156, belonged to which of the following dynasties?

- A. Uchchakalpa
- B. Rajarshitulya
- C. Parivrajaka
- D. Nal

11. According to the Ramnagar inscription who was the founder of Gond dynasty of Garha?

- A. Yadavrai
- B. Hridayshah
- C. Sumer Singh
- D. Veer Narayan

12. According to Indian Railways Report 2023-24 what was the position of Madhya Pradesh in the country in terms of Railway Network?

- A. Sixth
- B. Third
- C. Fifth
- D. Fourth

13. After whom is the 'Karma' festival celebrated widely in tribal society named?

- A. In the name of Goddess
- B. In the name of Tree
- C. In the name of River
- D. None of the above

14. The Prime Minister of India congratulated which Indian chess player on defeating world no. 01 Chess player Hou Yifan in the 2nd leg of Blitz semifinal at World Team Blitz Championship at London on 19th June 2025?

- A. R. Vaishali
- B. Soumya Swaminathan
- C. Divya Deshmukh
- D. Harika Dronavalli

15. What was the position of Madhya Pradesh in the country in wind energy capacity (on 31st May 2025)?

- A. Eighth
- B. Seventh
- C. Sixth
- D. Fifth



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16. वर्ष 2024-25 में प्राथमिक क्षेत्र के अन्तर्गत मध्य प्रदेश के सकल राज्य मूल्य वर्धन (जी एस वी ए) में सबसे कम योगदान किस उपक्षेत्र का था?

- A. पशुपालन
- B. वानिकी
- C. मत्स्यपालन एवं एक्वाकल्चर
- D. फसल

17. मध्य प्रदेश की प्रियांशी प्रजापत ने किस विधा में जून 2025 में वियतनाम में आयोजित प्रतियोगिता में स्वर्ण पदक जीता?

- A. तीरंदाजी
- B. मुक्केबाजी
- C. कुश्ती
- D. निशानेबाजी

18. भारत में स्वदेशी डिज़ाइन से निर्मित प्रथम डाइविंग सपोर्ट वैसल का नाम क्या है, जिसे 18 जुलाई 2025 को भारतीय नौसेना को सौंपा गया?

- A. आई एन एस नीलगिरि
- B. आई एन एस निस्तार
- C. आई एन एस उदयगिरि
- D. आई एन एस सूरत

19. भोपाल राज्य पर स्वतंत्र भारत का पूर्ण प्रशासनिक नियंत्रण कब हुआ?

- A. अगस्त 1947
- B. जून 1949
- C. जनवरी 1950
- D. जनवरी 1949

20. बाबर ने चन्देरी पर आक्रमण किस शासक के विरुद्ध किया था?

- A. मेदिनी राय
- B. राव सिलहदी
- C. राव विक्रम
- D. मान सिंह

21. नीति आयोग द्वारा जारी SDG इंडिया इंडेक्स 2023-24 में लक्ष्य क्रमांक 4 (गुणवत्तापूर्ण शिक्षा) में मध्य प्रदेश का स्कोर क्या था?

- A. 49
- B. 50
- C. 56
- D. 62

22. मध्य प्रदेश में ज्ञान (GYAN) मिशन को शुरू करने का मुख्य उद्देश्य क्या है?

- A. निर्यात को बढ़ावा देना
- B. समावेशी और व्यापक विकास
- C. शहरी सौंदर्यीकरण
- D. प्रशासन में कटौती

23. मध्य प्रदेश में जनजातीय विकास खण्डों की संख्या कितनी है?

- A. 86
- B. 89
- C. 84
- D. 80

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16. Which subsector had the lowest contribution to Madhya Pradesh's Gross State Value Added (GSVA) within the primary sector in the year 2024-25?

- A. Livestock
- B. Forestry
- C. Fisheries and Aquaculture
- D. Crops

17. In which event Priyanshi Prajapat of Madhya Pradesh won the gold medal at Vietnam in June 2025?

- A. Archery
- B. Boxing
- C. Wrestling
- D. Shooting

18. Name India's first indigenously designed and built diving support vessel which was given to Indian navy on 18th July 2025?

- A. INS Nilgiri
- B. INS Nistar
- C. INS Udaygiri
- D. INS Surat

19. When independent India got full administrative control on Bhopal State?

- A. August 1947
- B. June 1949
- C. January 1950
- D. January 1949

20. Against which ruler did Babar launch an attack on Chanderi?

- A. Medini Rai
- B. Rao Silhadi
- C. Rao Vikram
- D. Man Singh

21. What was Madhya Pradesh's score in Goal 4 (Quality Education), as per the NITI Aayog SDG India Index 2023-24?

- A. 49
- B. 50
- C. 56
- D. 62

22. What is the main goal of launching GYAN Mission in Madhya Pradesh?

- A. Export promotion
- B. Inclusive and comprehensive growth
- C. Urban beautification
- D. Administrative downsizing

23. How many tribal development Blocks are there in Madhya Pradesh?

- A. 86
- B. 89
- C. 84
- D. 80



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24. मध्य प्रदेश में 'पेसा एक्ट' कब लागु किया गया?



- A. नवंबर 2021
- B. नवंबर 2022
- C. नवंबर 2023
- D. नवंबर 2024

25. वर्ष 2011 की जनगणना के अनुसार, जनसंख्या के आकार की दृष्टि से मध्य प्रदेश में प्रथम चार जिले कौन-से थे?



- A. इंदौर, भोपाल, जबलपुर, खालियर
- B. इंदौर, भोपाल, जबलपुर, उज्जैन
- C. इंदौर, जबलपुर, सागर, भोपाल
- D. इंदौर, जबलपुर, भोपाल, रीवा

26. मध्य प्रदेश के जनजातीय क्षेत्र के विषय पर लिखित पुस्तक 'द हाईलैण्ड्स ऑफ सेण्ट्रल इण्डिया' के लेखक हैं-



- A. वैरियर एल्चिन
- B. डब्ल्यू. बी. ग्रीगसन
- C. केप्टन जे फोरसिथ
- D. आर. वी. रसेल, हीरालाल

27. मध्य प्रदेश में कर्कराज मंदिर कहाँ स्थित है?



- A. उज्जैन
- B. ओंकारेश्वर
- C. महेश्वर
- D. अमरकंटक

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28. वर्ष 2023-24 में मध्य प्रदेश में सिंचाई के सम्बन्ध में इनमें से कौन-सा कथन सही है?



- A. राज्य में सिंचाई के साधनों में कुएँ एवं ट्यूबवेल शीर्ष पर है।
- B. राज्य में सिंचाई के साधनों में तालाब दूसरे स्थान पर है।
- C. राज्य में सिंचाई के साधनों में नहरों का चौथा स्थान है।
- D. डिण्डोरी एवं अनूपपुर में शुद्ध सिंचित क्षेत्र राज्य के औसत से अधिक है।

29. 'डंढार' नामक लोक नृत्य किस जनजाति का लोक नृत्य है?



- A. भील
- B. गोंड
- C. माँझी
- D. कंवर

30. संशोधित राष्ट्रीय ग्राम स्वराज अभियान के विभिन्न उद्देश्यों में से एक उद्देश्य ----- है।



- A. सतत विकास लक्ष्य को प्राप्त करने के लिए पंचायती राज संस्थाओं के शासन क्षमताओं का विकास करना।
- B. बेहतर शासन के लिए महिलाओं और बच्चों के क्षमताओं का विकास करना।
- C. शहरी-ग्रामीण आबादी की आर्थिक क्षमताओं में वृद्धि करना।
- D. रोजगार के अवसरों के लिए शहरी स्थानों की ओर आप्रवासन सुनिश्चित करना।



24. When 'PESA Act' was implemented in Madhya Pradesh?

- A. November 2021
- B. November 2022
- C. November 2023
- D. November 2024

25. According to the 2011 census, which were the first four districts in Madhya Pradesh in terms of population size?

- A. Indore, Bhopal, Jabalpur, Gwalior
- B. Indore, Bhopal, Jabalpur, Ujjain
- C. Indore, Jabalpur, Sagar, Bhopal
- D. Indore, Jabalpur, Bhopal, Rewa

26. Who is the author of the book "The Highlands of Central India" written on the tribal area of Madhya Pradesh?

- A. Variyar Elwin
- B. W. B. Grigson
- C. Captain J. Forsyth
- D. R. V. Russell, Hiralal

27. 'Karkraj Temple' in Madhya Pradesh is located in-

- A. Ujjain
- B. Omkareshwar
- C. Maheshwar
- D. Amarkantak

28. Which of the following statements is correct regarding irrigation in Madhya Pradesh in the year 2023-24?

- A. Wells and tubewells are at the top among the sources of irrigation.
- B. Ponds are at the second place among the sources of irrigation.
- C. Canals are at fourth position among the sources of irrigation.
- D. The net irrigated area in Dindori and Anuppur is higher than the state average.

29. The folk dance called "Dandhar" is the folk dance of which tribe?

- A. Bhil
- B. Gond
- C. Manjhi
- D. Kanwar

30. One of the objectives of Revamped Rashtriya Gram Swaraj Abhiyan is-

- A. Develop governance capabilities of Panchayati Raj Institutions to deliver on Sustainable Development Goals.
- B. Develop capabilities of women and children towards better governance.
- C. Enhance economic capabilities of urban-rural population.
- D. Ensure immigration to urban places for employment opportunities.



31. एक ऑप्टिकल स्कैनर जो किसी चित्र को पढ़ने और उसमें से टेक्स्ट (पाठ) को पहचानने के लिए उपयोग किया जाता है, उसे क्या कहा जाता है?

- A. ऑप्टिकल केरेक्टर रिकग्निशन (OCR)
- B. ऑप्टिकल मार्क रिकग्निशन (OMR)
- C. मैग्नेटिक इंक केरेक्टर रिकग्निशन (MICR)
- D. बार कोड रीडर (BCR)

32. मध्य प्रदेश की 16 वीं विधानसभा में महिला एवं बाल विकास विभाग की मंत्री ----- हैं।

- A. श्रीपती कृष्णा गौर
- B. श्रीमती प्रतिमा बागड़ी
- C. सुश्री निर्मला भूरिया
- D. श्रीमती राधा सिंह

33. प्रिंटर का रेजोल्यूशन (Resolution) किस इकाई में मापा जाता है?

- A. DPI
- B. PPI
- C. PPM
- D. KBS

34. अनु.जाति, जनजाति (अत्याचार निवारण) अधिनियम 1989 की किस धारा के अन्तर्गत राज्य सरकार को विशेष न्यायालय स्थापित करने की शक्ति दी गई है?

- A. धारा - 12
- B. धारा - 14
- C. धारा - 16
- D. धारा - 18

35. चन्द्रगुप्त विक्रमादित्य के साँची अभिलेख में ----- का उल्लेख मिलता है।

- A. सावंतर्दव
- B. आप्रकार्दव
- C. चेल्लकर्दव
- D. बिल्हणर्दव

36. जब कोई वेब पेज सर्वर पर नहीं मिलता है, तो HTTP में कौन-सा स्टेटस कोड लौटाया जाता है?

- A. 404
- B. 403
- C. 304
- D. 303

37. वर्ष 2024 के लिए 59 वाँ ज्ञानपीठ पुरस्कार किसे मिला है?

- A. जगद्गुरु रामभद्राचार्य
- B. गुलज़ार
- C. डॉ. विश्वनाथ प्रसाद तिवारी
- D. विनोद कुमार शुक्ला



31. An optical scanner used to read an image and recognize text from it is known as-

- A. Optical Character Recognition (OCR)
- B. Optical Mark Recognition (OMR)
- C. Magnetic Ink Character Recognition (MICR)
- D. Bar Code Reader (BCR)

32. The Minister of Department of Women and Child Development in the 16th Legislative Assembly of Madhya Pradesh is -----.

- A. Smt. Krishna Gaur
- B. Smt. Pratima Bagri
- C. Sushri Nirmala Bhuria
- D. Smt. Radha Singh

33. The resolution of a printer is measured in which unit?

- A. DPI
- B. PPI
- C. PPM
- D. KBS

34. Under which section of the Scheduled Caste and Schedule Tribes (Prevention of Atrocities) Act 1989 the State Government has been given the power to establish special courts?

- A. Section - 12
- B. Section - 14
- C. Section - 16
- D. Section - 18

35. The inscription of Chandragupta Vikramaditya at Sanchi mentions----

- A. Sawantardav
- B. Amrakardav
- C. Chellakardav
- D. Bilahanardav

36. What is the HTTP status code returned by the server, when a web page is not found on the server?

- A. 404
- B. 403
- C. 304
- D. 303

37. Who is the recipient of the 59th Jnanpith Award for the year 2024?

- A. Jagadguru Rambhadracharya
- B. Gulzar
- C. Dr. Vishwanath Prasad Tiwari
- D. Vinod Kumar Shukla



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38. सतपुड़ा पर्वत श्रेणी के सम्बन्ध में निम्नलिखित कथनों के आधार पर, नीचे दिए गए कूट से सही उत्तर चुनिए-

- (1) सतपुड़ा के पश्चिमी भाग को राजपीपला पहाड़ियाँ भी कहा जाता है।
- (2) यहाँ के अधिकांश पहाड़ी क्षेत्र लगभग 900 मी. ऊँचे हैं।
- (3) पश्चिमी सतपुड़ा की अधिकतम ऊँचाई 1325 मी. है।
- (4) मैकल श्रेणी विंध्य और सतपुड़ा को जोड़ने वाली कड़ी है।

कूट:

- A. केवल 1, 2 एवं 3 सही हैं।
- B. केवल 1, 2 एवं 4 सही हैं।
- C. केवल 2, 3 एवं 4 सही हैं।
- D. सभी 1, 2, 3 एवं 4 सही हैं।

39. अनुसूचित जाति और अनुसूचित जनजाति (अत्याचार निवारण) अधिनियम वर्ष 1989 किस माह में अधिनियमित किया गया था?

- A. अगस्त
- B. सितंबर
- C. अक्टूबर
- D. नवंबर

40. भारत वन स्थिति रिपोर्ट 2023 के अनुसार, मध्य प्रदेश में वनों के अन्तर्गत क्षेत्रफल (प्रतिशत में) की दृष्टि से प्रथम तीन जिले कौन-से हैं?

- A. बालाघाट, मण्डला, डिण्डोरी
- B. उमरिया, बालाघाट, श्योपुर
- C. श्योपुर, मण्डला, बालाघाट
- D. डिण्डोरी, उमरिया, बालाघाट

41. कौन से दो सेंसर मोबाइल की डिस्प्ले को हमारे फोन पकड़ने के तरीके के अनुसार खड़ा (वर्टिकल) या लेटा (होरिजॉन्टल) करने में मदद करते हैं?

- A. एक्सेलेरोमीटर और जाइरोस्कोप
- B. एक्सेलेरोमीटर और प्रॉक्सिमिटी सेंसर
- C. मैनेटोमीटर और माइक्रोटेलेस्कोप
- D. बैरोमीटर और जाइरोस्कोप

42. सुमेलित कीजिए-

- | जिला | प्रस्तावित औद्योगिक क्षेत्र |
|--------------|-----------------------------|
| (a) ग्वालियर | (1) सेमली कांकड |
| (b) मन्दसौर | (2) मोहना |
| (c) मुरैना | (3) मवाई |
| (d) धार | (4) लालबाघ |

- A. a-1, b-2, c-3, d-4
- B. a-4, b-3, c-2, d-1
- C. a-2, b-1, c-3, d-4
- D. a-2, b-3, c-1, d-4



38. On the basis of the following statements regarding Satpura, select the correct answer from the code given below-

- (1) The Western part of Satpura is also called Rajpipla hills.
- (2) Most of the hilly areas here are 900 m. high.
- (3) The maximum height of western Satpura is 1325 m.
- (4) Maikal range is a connecting link between the Vindhya and Satpuras.

Code:

- A. Only 1, 2 and 3 are correct.
- B. Only 1, 2 and 4 are correct.
- C. Only 2, 3 and 4 are correct.
- D. All 1, 2, 3 and 4 are correct.

39. The Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act was enacted in the which month of year 1989?

- A. August
- B. September
- C. October
- D. November

40. According to India State of Forest Report 2023, which are the first three districts in terms of area (%) under forests in Madhya Pradesh?

- A. Balaghat, Mandla, Dindori
- B. Umaria, Balaghat, Sheopur
- C. Sheopur, Mandla, Balaghat
- D. Dindori, Umaria, Balaghat

41. Which of the two sensors help the mobile display change between vertical and horizontal orientations based on how we hold the mobile phone?

- A. Accelerometer and Gyroscope
- B. Accelerometer and proximity sensor
- C. Magnetometer and Micro telescope
- D. Barometer and Gyroscope

42. Match the column-

District	Proposed Industrial Area
(a) Gwalior	(1) Semlikankad
(b) Mandsaur	(2) Mohna
(c) Morena	(3) Mawai
(d) Dhar	(4) Lalbagh
A. a-1, b-2, c-3, d-4	
B. a-4, b-3, c-2, d-1	
C. a-2, b-1, c-3, d-4	
D. a-2, b-3, c-1, d-4	



43. वर्ष 2020-21 में मध्य प्रदेश में ज्वार उत्पादन के सम्बन्ध में निम्नलिखित में से कौन-सा कथन सही है?

- A. प्रदेश का ज्वार के उत्पादन में देश में तीसरा स्थान था।
- B. प्रदेश का ज्वार के उत्पादन में देश में पाँचवां स्थान था।
- C. राज्य में सबसे अधिक उत्पादन डिण्डोरी जिले में हुआ था।
- D. राज्य में भिण्ड एवं ग्वालियर प्रमुख उत्पादक जिलों में से थे।

44. गोंड जनजाति द्वारा मनाया जाने वाला 'मेघनाद पर्व' किस हिन्दी माह में मनाया जाता है?

- A. क्वार
- B. ज्येष्ठ
- C. सावन
- D. फाल्गुन

45. मध्य प्रदेश में शीत ऋतु के सम्बन्ध में इनमें से कौन-सा कथन सही है?

- A. जनवरी में निम्न वायुदाब होता है।
- B. दिसम्बर में निम्न वायुदाब होता है।
- C. जनवरी में उच्च वायुदाब होता है।
- D. इस ऋतु में रातें छोटी होती हैं।

46. कुंवर चैन सिंह का सम्बन्ध मध्य प्रदेश की किस रियासत से था?

- A. धार
- B. नरसिंहगढ़
- C. राघोगढ़
- D. राजगढ़



43. Which of the following statements is correct regarding the production of Jowar in Madhya Pradesh in the year 2020-21?

- A. The State was third in the country in the production of Jowar.
- B. The State was fifth in the country in the production of Jowar.
- C. The highest production in the State was in Dindori district.
- D. Bhind and Gwalior were among the major producing districts in the State.

44. In which Hindi month is the Meghnad festival celebrated by the Gond tribe?

- A. Kwanr
- B. Jyeshtha
- C. Sawan
- D. Falgun

45. Which of the following statements is correct regarding the winter season in the State of Madhya Pradesh?

- A. There is low pressure in January.
- B. There is low pressure in December.
- C. There is high pressure in January.
- D. The nights are shorter in this season.

46. Kunwar Chain Singh was associated with which Princely State of Madhya Pradesh?

- A. Dhar
- B. Narsinghgarh
- C. Raghogarh
- D. Rajgarh



47. चतुर्भुज नाला प्रागैतिहासिक शैल चित्र स्थल
किस जिले में स्थित है?

- A. धार
- B. बैतूल
- C. मन्दसौर
- D. अनूपपुर

48. गोंडवाना की रानी दुर्गावती ने मुगल सेनापति
आसफ खॉ से युद्ध करते हुए कब आत्म-बलिदान
किया था?

- A. सन 1560
- B. सन 1562
- C. सन 1564
- D. सन 1566

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49. "विभिन्न स्रोत से पर्यावरण प्रदूषकों के उत्सर्जन
या निर्वहन के लिए मानक निर्धारित करना" यह
पर्यावरण संरक्षण अधिनियम, 1986 के तहत ----
की सामान्य शक्तियों के अंतर्गत है।

- A. राज्य सरकार
- B. केन्द्र सरकार
- C. स्थानीय सरकार
- D. राष्ट्रीय हरित न्यायाधिकरण

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50. पद्मश्री पुरस्कार से 2025 में सम्मानित मध्य प्रदेश
के किस साहित्यकार ने निमाड़ी शब्दकोश और
व्याकरण तैयार किया है?

- A. श्री भेरू सिंह चौहान
- B. श्री जगदीश जोशीला
- C. श्री हरचंदन सिंह भट्टी
- D. श्री बुधेंद्र कुमार जैन

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47. In which district is the prehistoric rock art site of Chaturbhuj Nala located?

- A. Dhar
- B. Betul
- C. Mandsaur
- D. Anuppur

48. When did Gondwana's queen Durgawati sacrifice herself while fighting with Mughal Commander Asaf Khan?

- A. Year 1560
- B. Year 1562
- C. Year 1564
- D. Year 1566

49. "Laying down standards for emission or discharge of environmental pollutants from various sources whatsoever" comes within the general powers of ----- under Environment Protection Act, 1986.

- A. State Government
- B. Central Government
- C. Local Self Government
- D. National Green Tribunal

50. Which Padma Shri Award recipient in 2025, of Madhya Pradesh has prepared a Nimadi dictionary and grammar book?

- A. Shri Bheru Singh Chouhan
- B. Shri Jagdish Joshila
- C. Shri Harchandan Singh Bhatti
- D. Shri Budhendra Kumar Jain

Section-'B' - Civil Engineering



51. In a closed traverse, the sum of latitudes and sum of departures of all the sides were calculated as - 3 m and + 4 m respectively. The closing error will be -----

- A. 1.0 m
- B. 3.0 m
- C. 4.0 m
- D. 5.0 m

52. I.S. ----- specifies the procedure for conducting the tensile test for steel reinforcement to be used in building construction.

- A. 1608 (2005)
- B. 3495 (1992)
- C. 2386 (1963)
- D. 1201 (1978)

53. What will be the critical damping (C_c) in case of single degree of freedom system having stiffness coefficient (k) and mass of machine foundation m ?

- A. $2\sqrt{km}$
- B. $2k\sqrt{m}$
- C. $2\pi k\sqrt{1/m}$
- D. $2\pi\sqrt{k/m}$

54. Match the correct sequence of Manning's (n) roughness values for lined channels.

(i) Cement (M) 0.018 - 0.020

Plastered

Masonry

(ii) Split (N) 0.025 - 0.035

Boulder

lining

(iii) Brick (O) 0.012 - 0.015

lining

(iv) Round (P) 0.020 - 0.025

Boulder

lining

A. i-M, ii-N, iii-O, iv-P

B. i-O, ii-P, iii-M, iv-N

C. i-O, ii-M, iii-N, iv-P

D. i-N, ii-M, iii-P, iv-O

55. A catchment has eight rain gauge stations. The annual rainfall recorded by these gauges in a particular year are as follows-

Station	A	B	C	D
Rainfall (cm)	80.8	87.6	102.0	160.8
Station	E	F	G	H
Rainfall (cm)	120.4	110.8	142.3	98.5

The optimum number of rain gauges in the catchment for estimating the mean rainfall with an error of less than 8% is-

- A. 11
B. 04
C. 01
D. 09
56. The landfill sites shall be setup as the guidelines of-
- A. MoHUA & CPCB
B. MoEFCC
C. MoEFCC & CPCB
D. CPCB

57. Child labour (Prohibition and Regulation) Act, 1986 (61 of 1986) part I under Definitions, states that-

- A. "Child" means a person who has not completed 13th year of age.
B. "Child" means a person who has not completed 14th year of age.
C. "Child" means a person who has not completed 18th year of age.
D. "Child" means a person who has not completed 21st year of age.

58. In a chemical composition of cement, the ratio of % of lime to % of Silica, alumina and iron oxide when calculated by formula,

$$\frac{\text{CaO} - 0.7\text{SO}_3}{2.8\text{SiO}_2 + 1.2\text{Al}_2\text{O}_3 + 0.65\text{Fe}_2\text{O}_3}$$
should not be greater than ----- and less than -----.

- A. 1.05 ; 0.61
B. 1.08 ; 0.67
C. 1.02 ; 0.66
D. 1.07 ; 0.65



59. The minimum width of a timber door frame carrying 25 mm thick shutter as per IS 4021:1995 should be ----- mm.

- A. 60
- B. 90
- C. 100
- D. 120

60. Annuity models in highway projects consider-

- A. Initial cost + maintenance cost
- B. Only construction cost
- C. Only maintenance cost
- D. None of these

61. Match the shape of traffic signs with the respective category-

- | | |
|-----------------|-----------------|
| (a) Circular | (1) Mandatory |
| (b) Triangular | (2) Informatory |
| (c) Rectangular | (3) Warning |

- A. a-1, b-2, c-3
- B. a-1, b-3, c-2
- C. a-3, b-2, c-1
- D. None

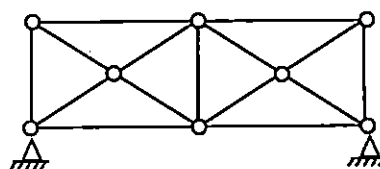
62. In staircase design for a residential building the tread may vary between-

- A. 150 to 180 mm
- B. 200 to 250 mm
- C. 300 to 500 mm
- D. 600 to 650 mm

63. Framed structure is about ----- costlier than the Load bearing structure.

- A. 5 to 10%
- B. 25 to 30%
- C. 35 to 40%
- D. 15 to 20%

64. What is the total degree of redundancy for frame as shown below?



- A. 2
- B. 3
- C. 4
- D. 5



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65. MPPWD schedule of rates for building works are issued by-

- A. Governor of MP
- B. Project Director of PWD (PIU)
- C. Secretary of PWD
- D. Engineer in Chief of PWD

66. The slope of the linear portion of the Void Ratio Versus $\log \bar{\sigma}$ is known as-

- A. Expansion index
- B. Compression index
- C. Recompression index
- D. Swelling index

67. Prying forces are the additional-

- A. Shearing forces on the bolts because of long joints
- B. Bending forces on the bolts because of long joints
- C. Tensile forces due to the flexibility of connected parts leading to deformations
- D. Force due to friction b/w the connected parts

68. Match the following-



Terms	Descriptions
(a) Detailed estimate	(1) Estimate used for initial project planning
(b) Plinth area estimate	(2) List of all measured quantities of work
(c) Abstract estimate	(3) Most accurate and comprehensive estimate
(d) Bill of quantities	(4) Estimate prepared by multiplying built-up area by rate per sq.m.

A. a-4, b-2, c-1, d-3

B. a-3, b-4, c-1, d-2

C. a-2, b-3, c-1, d-4

D. a-3, b-2, c-1, d-4

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69. The following three distinct stages in the sludge digestion process-

- (1) Alkaline fermentation
- (2) Acid regression
- (3) Acid fermentation

The correct sequence in which these occur progressively in the sludge digestion process-

- A. 1, 2, 3
- B. 2, 3, 1
- C. 3, 1, 2
- D. 3, 2, 1

70. Match the wave-length regions and their principal applications in Remote Sensing-

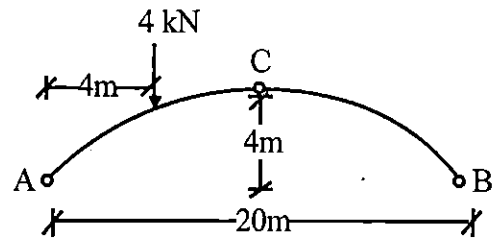
- | | |
|-----------------------------|---|
| (a) Visible Region | (1) Vegetation discrimination, volcanic studies |
| (b) Mid Infrared Region | (2) Plant species differentiation |
| (c) Thermal Infrared Region | (3) Differentiation of geological materials and soils |

- A. a-1, b-2, c-3
- B. a-3, b-1, c-2
- C. a-2, b-3, c-1
- D. a-2, b-1, c-3

71. When the inversion layer exit above the emission source, as well as below the sources, such plume is called----

- A. Neutral plume
- B. Looping plume
- C. Lofting plume
- D. Trapping plume

72. What is the vertical reaction at support A for three hinged parabolic arch shown in figure below?



- A. 2.5 kN
- B. 3.2 kN
- C. 4.4 kN
- D. 5.2 kN

73. The magnetic bearing of a line AB is $S40^\circ E$ and the magnetic declination is $8^\circ 5' E$. The true bearing of line AB is-

- A. $188^\circ 5'$
- B. $148^\circ 5'$
- C. $131^\circ 55'$
- D. $48^\circ 5'$



74. Which of the following statement is incorrect in the fall hydraulic structure studies?

- A. The trapezoidal notch fall was designed by Ried.
- B. Vertical drop falls are quite suitable for discharges upto $15 \text{ m}^3/\text{s}$ and drops upto 1.5 m.
- C. Well type falls are suitable and economical for low drops and high discharges.
- D. Baffle falls may be used for all discharges when drop is more than 1.5 m.

75. The angle of shearing resistance used in the Culmann's method to determine the stability number is known as-

- A. Effective Angle
- B. Apparent Angle
- C. Mobilised Angle
- D. Weighted Angle

76. Absolute Pressure is equal to-

- A. Atmospheric Pressure
- B. Gauge Pressure – Atmospheric Pressure
- C. Atmospheric Pressure – Gauge Pressure
- D. Gauge Pressure + Atmospheric Pressure

77. An isobar is a line which connects all the points below the ground surface at which -----

- A. the total ground elevation is same
- B. the settlement is same.
- C. the vertical stress is same
- D. the compaction is same

78. The Design Bond stress of M30 Grade of concrete for plain bars in tension as per IS 456:2000 is -----

- A. 1.4 N/mm^2
- B. 1.2 N/mm^2
- C. 1.6 N/mm^2
- D. 1.5 N/mm^2



79. For MPPWD, which form is to be printed on yellow papers only?

- A. Form 28 of Hand Receipt & Measurement book Form 23.
- B. Form 26 RA bills and Form 21 of Muster Roll.
- C. Form related to tools & plants, from number 13 to 15.
- D. Form 27-B for Final bill.

80. A concentrated load of 50T acts vertically at a point of soil surface. If Boussinesq's equation is used for calculation of stress, then find out the Ratio of vertical stresses acting directly below the load at depth of 3 m and 5 m respectively-

- A. 0.36
- B. 0.60
- C. 1.67
- D. 2.77

81. Factors of affecting Infiltration are-

- A. Hydraulic Conductivity
- B. Entrapped air
- C. Impact of raindrops
- D. Pollution in nearby streams

82. Which estimate is prepared when there is a major deviation in cost due to price escalation or design change?

- A. Abstract estimate
- B. Supplementary estimate
- C. Revised estimate
- D. Detailed estimate

83. A cement concrete pavement uses 16 mm diameter deformed tie bars at transverse joints. The working stress in steel is 120 MPa, and the permissible bond stress for deformed bars is 2.4 MPa.

Assuming tie bars are circular, calculate the minimum required length of each tie bar.

- A. 320 mm
- B. 400 mm
- C. 480 mm
- D. 560 mm

84. Capillary rise in a tube is inversely proportional to-

- A. Length of the tube
- B. Square of the diameter of the tube
- C. Diameter of the tube
- D. Density of fluid

85. For a uniform section of beam having length L meter which carries uniformly distributed load of ω kN/m, what is the value of maximum deflection at centre of span when both the ends of beam fixed?

A. $\frac{\omega L^4}{384EI}$

B. $\frac{5\omega L^4}{384EI}$

C. $\frac{\omega L^4}{8EI}$

D. $\frac{5\omega L^4}{48EI}$

86. Trigonometric levelling by reciprocal observations-

- A. Eliminates error due to uncertain refraction.
- B. Eliminates error due to inaccurate levelling of the instrument.
- C. Proves to be more accurate than spirit levelling in flat terrains.
- D. Requires no correction for curvature of the earth.

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87. ----- joints allow thermal expansion in pavements.

- A. Contraction
- B. Expansion
- C. Construction
- D. Longitudinal

88. As per IS:1172 the domestic consumption of water under normal condition is-

- A. 100 litres/day/capita
- B. 105 litres/day/capita
- C. 200 litres/day/capita
- D. 250 litres/day/capita

89. The 'frustrating' mode of settlement of disputes between client & contractor is-

- A. Administrative and computerised evidence.
- B. Settlement through court action.
- C. Settlement through arbitration.
- D. Direct negotiation between client and contractor.



90. A balanced cantilever bridge is a statically determinate structure, used for spans between-

- A. 10 to 19 m
- B. Upto 8 m
- C. 20 to 24 m
- D. 25 to 50 m

91. Assumed standard deviation for concrete mix design of grade M40 as per IS 10262:2009 is -----

- A. 3.0 N/mm^2
- B. 3.5 N/mm^2
- C. 4.0 N/mm^2
- D. 5.0 N/mm^2

92. PCU value for a agricultural tractor-trailer as per IRC is recommended as-

- A. 1.75
- B. 4.5
- C. 6.0
- D. 8.0

93. A line along which the velocity potential ϕ is constant is called as-

- A. Streamline
- B. Equipotential line
- C. Path-line
- D. Vortex line

94. Velocity of flow in a pipe of 200 mm diameter carrying discharge of $0.06 \text{ m}^3/\text{s}$ is-

- A. 3.14 m/s
- B. 2.50 m/s
- C. 1.91 m/s
- D. 1.10 m/s

95. A 120 m tape is suspended between the ends under a pull of 125 N. The weight of the tape is 25 N. After the sag correction, the correct distance between the tape ends is-

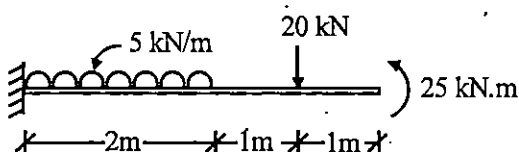
- A. 119.8 m
- B. 120.2 m
- C. 119.6 m
- D. 120.4 m



96. A pipe of diameter 200 mm carries a rate of flow of $0.250 \text{ m}^3/\text{s}$ of water is suddenly enlarged to a diameter of 400 mm. The loss of head is-

A. 18.16 m of water
B. 1.816 m of water
C. 0.186 m of water
D. 0.0186 m of water

97. What is the value of bending moment at fixed support as shown in the figure below?



A. 70 kN.m
B. 60 kN.m
C. 25 kN.m
D. 45 kN.m

98. The lateral earth pressure coefficients of a soil sample are K_a for active state, K_p for passive state and K_0 for rest condition.

Select the correct arrangement in terms of magnitude.

A. $K_0 < K_a < K_p$
B. $K_a < K_0 < K_p$
C. $K_a < K_p < K_0$
D. $K_p < K_0 < K_a$

99. Choose the False statement-

A. If a contractor has insurance and accident come out, the contractor will not suffer any financial loss.
B. Good safety record produce higher morale and productivity.
C. Suffering of injured workers and their family is difficult to quantify in economic terms.
D. Unsuitable and defective equipment is one of the causes of accident.



100. The primary purpose of Maithon dam is-

- A. Irrigation
- B. Hydropower
- C. Flood control
- D. None of these

101. The field capacity of solid wastes is an important parameter for-----

- A. Specific weight
- B. Leachate generation
- C. Permeability
- D. Density

102. Acceptable noise level for hospitals from view points of economy, comfort and practical considerations of the conditions prevailing in India lies in the range of ----- db.

- A. 25 to 30 db
- B. 10 to 20 db
- C. 40 to 50 db
- D. 60 to 65 db

103. Match List-I (Type of members) with List-II (Max Slenderness ratio) and select the correct answer using the code given below the list-

List-I	List-II
(a) For compression member carrying load (dead and live)	(1) 350
(b) For member carrying compression loads due to wind and seismic force only	(2) 180
(c) For member normally acting as a tie in roof truss or bracing system, not effective but in which the reversal of stress occurs due to wind or seismic force	(3) 250

Codes :

- A. a-1, b-2, c-3
- B. a-2, b-3, c-1
- C. a-3, b-1, c-2
- D. a-1, b-3, c-2

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104. Dupuit's formula for unconfined aquifers is based on the assumption that-

- A. The aquifer flow lines are not radial and horizontal.
- B. The well has been sunk through the half depth of the aquifer.
- C. The aquifer is homogeneous, isotropic and infinite.
- D. None of these.

105. Calculate Stopping Sight Distance (SSD) for Vehicle speed of 90 kmph (coefficient of friction $f = 0.25$, reaction time $t = 2.5$ sec)

- A. 160 m
- B. 190 m
- C. 220 m
- D. 250 m

106. ----- cement is obtained by grinding ordinary Portland cement clinker with water repellent film forming substance such as oleic acid and stearic acid.

- A. Expansive
- B. Hydrophobic
- C. Colored
- D. Air-entraining

107. The value of organic loading for conventional trickling filter ranges between-

- A. 19000 to 22000 kg of BOD_5 / ha - m
- B. 6000 to 18000 kg of BOD_5 / ha - m
- C. 2500 to 3500 kg of BOD_5 / ha - m
- D. 900 to 2200 kg of BOD_5 / ha - m

108. The slenderness ratio in a tension member as per the IS code where reversal of stress is due to a load other than wind or seismic, should not exceed-

- A. 350
- B. 100
- C. 180
- D. 60

109. Castigliano's theorem can be employed to evaluate deflections in-

- A. Beams only
- B. Trusses only
- C. Both Beams and Trusses
- D. None of these



110. The specific speed of turbine is given by-

A. $N_s = \frac{N\sqrt{P}}{H^{3/4}}$

B. $N_s = \frac{N\sqrt{Q}}{H^{3/4}}$

C. $N_s = \frac{N\sqrt{P}}{H^{5/4}}$

D. $N_s = \frac{NP^{5/4}}{\sqrt{H}}$

111. Concentration of Na, Ca and Mg are 22, 3.5 and 1.0 milli-equivalents per litre respectively and the electrical conductivity is 200 micromhos per cm at 25°C. The classification of irrigation water is-

A. $C_1 - S_1$

B. $C_1 - S_2$

C. $C_2 - S_2$

D. $C_2 - S_1$

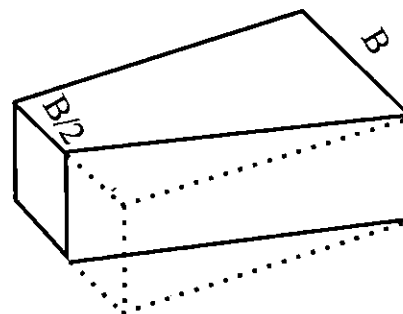
112. Number of days after which water is supplied to soil having optimum moisture level 80% of available moisture for ensuring sufficient irrigation of a given crop having field capacity of soil 28%, permanent wilting point 13%, dry density of soil 1.3 gm/cc, effective depth of root zone 80 cm and daily consumptive use of water for the given crop 12 mm.

A. 9 days

B. 10 days

C. 11 days

D. 12 days



The type of closer shown in figure is ----- closer.

A. Mitred

B. Bevelled

C. King

D. Queen



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114. CBR value for the material which is taking load of 28 kg/cm^2 at 2.5 mm penetration can be reported as-

- A. 2.0%
- B. 4.0%
- C. 40.0%
- D. 1.36%

115. ----- is not a method of scheduling for project management.

- A. Bar Chart
- B. Network Analysis
- C. Milestone Chart
- D. Rate Analysis

116. Which of the equipment is best used for construction of embankments for oil storage tanks etc., on sandy soil?

- A. Smooth Wheeled Rollers
- B. Vibratory Rollers
- C. Sheep Foot Rollers
- D. Pre Compressor

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117. A circular shaft having length L and radius R subjected to a torque T . Then polar second moment of the cross section is-

- A. $\frac{\pi R^2}{4}$
- B. $\frac{\pi R^4}{2}$
- C. $\frac{\pi R^2}{2}$
- D. $\frac{\pi R^4}{4}$

118. A rectangular column of size $150 \text{ mm} \times 200 \text{ mm}$ carried a point load of 200 kN at an eccentricity of 30 mm from the centre along an axis parallel to longer face. What is maximum stress at bottom of column?

- A. 12.67 MPa
- B. 6.67 MPa
- C. 0.67 MPa
- D. 0 MPa



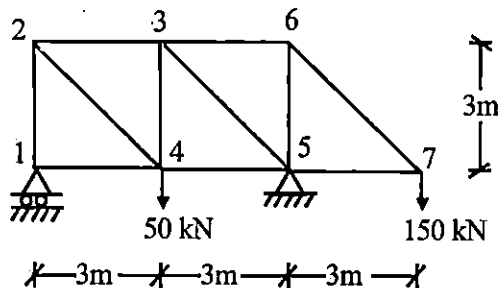
119. In which year the first Radar remote sensing satellite, SEASAT was launched?

- A. 1980
- B. 1966
- C. 1971
- D. 1978

120. The laminar flow through rectangular and triangular ducts, the frictional losses are high at-

- A. The inlet
- B. The mid-point of the sides
- C. The centre
- D. The corner

121. What is the value of force in member 1-2?



- A. 150 kN
- B. 100 kN
- C. 75 kN
- D. 50 kN

122. As per IRC guidelines, the recommended camber for drainage on cement concrete road is -----.

- A. 1.7% - 2.0%
- B. 2.1% - 2.5%
- C. Flat
- D. 3.0% - 4.0%

123. A field test for permeability consists in observing the time required for a tracer to travel between two observation wells. A tracer was found to take 10 h to travel between two wells 60 m apart when the difference in the water-surface elevation in them was 0.5 m. The mean particle size of the aquifer was 2 mm and the porosity of the medium was 0.3. If $v = 0.01 \text{ cm}^2/\text{s}$ then the Reynolds number of the flow-

- A. 02
- B. 1.5
- C. 01
- D. 0.834



124. Choose incorrect statement from below-

- A. Luminous flux is the radiant power given by light source.
- B. Lumen is the unit of luminous flux.
- C. The whole space surrounding a point subtends a solid angle of 4π .
- D. Lumen is the flux emitted in a solid angle of one steradian by a source having a uniform point source of ten candela.

125. Screening in water treatment process removes-

- A. Particles that settle down by gravity
- B. Particles and floc that are too small to be removed by gravity
- C. Pathogens
- D. Relatively large floating and suspended solids

126. Which of the following is not an example of a forced vortex flow?

- A. Liquid rotating in a vertical cylinder
- B. Flow inside the impeller of a centrifugal pump
- C. Flow through the runner of a turbine
- D. Whirlpool in a river

127. In unified soil classification system which group symbols are assigned to Silty Sand and Clayey Sand respectively?

- A. SS and CS
- B. SM and CS
- C. SM and SC
- D. MS and CS

128. Well foundation is the name given to -----

- A. Box Caisson
- B. Open Caisson
- C. Floating Caisson
- D. Pneumatic Caisson

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129. The Nagpur Road Plan classified roads in India into-

- A. 3 categories
- B. 5 categories
- C. 4 categories
- D. 6 categories

130. National Clean Air Programme was launched in 2019 to implement comprehensive mitigation measures to attain a decrease in pollutant-

- A. Ammonia
- B. Particulate matter
- C. SO_x
- D. NO_x

131. Match the followings-

(a) Ratio of (1) $\cos(\Delta/2)$

long chord
to tangent
length of a
circular curve
of radius R
and Deflection
angle Δ°

(b) Ratio of (2) $\sin(\Delta/2)$

long chord
to length
of curve

(3) $2\cos(\Delta/2)$

(4) $\frac{360\sin(\Delta/2)}{\pi\Delta}$

(5) $\frac{360\cos(\Delta/2)}{\pi\Delta}$

- A. a-2, b-4
- B. a-3, b-5
- C. a-3, b-4
- D. a-4, b-3



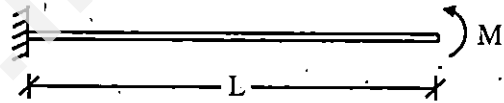
132. Backhoe, drag line, clamshell, trenching machine are-

- A. Hauling equipments.
- B. Excavation and earthmoving equipments.
- C. Excavation equipments.
- D. Conveying and Hauling equipments.

133. The solubility of atmospheric oxygen in fresh water at 0°C is approximately-

- A. 4.0 mg/L
- B. 9.2 mg/L
- C. 14.6 mg/L
- D. 20.0 mg/L

134. What is the maximum deflection of cantilever beam at free end as shown in figure below?



- A. $\frac{ML^3}{3EI}$
- B. $\frac{ML^2}{2EI}$
- C. $\frac{ML^3}{9EI}$
- D. $\frac{ML^2}{9EI}$

135. A column of size 450 mm × 600 mm has unsupported length of 3.0 m, ($D_y \times D_x$). It is braced against sidesway in both directions. As per IS : 456:2000, the minimum eccentricities in mm, with respect to major and minor axis are-

- A. 20.0 and 20.0
- B. 26.0 and 21.0
- C. 21.0 and 15.0
- D. 26.0 and 20.0



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136. The environment is said to be stable in the atmosphere when-

- A. $ELR < ALR$
- B. $ELR = ALR$
- C. $ELR > ALR$
- D. None of the above

137. Top width of weir wall (B') as per empirical formulas given by Bligh for the design of weir wall is estimated using the formula.

Where H_1 = Head of water over the weir wall at the time of maximum flood.

- A. $B' = \frac{H_1}{G+1}$
- B. $B' = \frac{H_1}{\sqrt{G+1}}$
- C. $B' = \frac{H_1}{\sqrt{G-1}}$
- D. $B' = \frac{H_1}{G-1}$

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138. In a Venturimeter, the length of divergent cone is longer than the convergent cone to-

- A. Increase velocity rapidly
- B. Decrease pressure rapidly
- C. Avoid flow separation and energy loss
- D. Enhance cavitation

139. Critical flow occurs when Froude's Number is-

- A. Less than 1
- B. Greater than 1
- C. Equal to 1
- D. None of the above

140. A Lump-sum contract has disadvantage of-

- A. Lack of time flexibility
- B. Cost of construction is defined
- C. Relation between all parties are clear
- D. Scope and limits are defined prior to start of construction



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141. Which of the following expression can be used to determine the Density Index (I_D) of the soil?

A. $I_D = \frac{e_{\max} - e_{\text{Avg}}}{e_{\max} - e_{\text{nat}}} \times 100\%$

B. $I_D = \frac{e_{\max} - e_{\text{nat}}}{e_{\max} - e_{\text{Avg}}} \times 100\%$

C. $I_D = \frac{e_{\max} - e_{\min}}{e_{\max} - e_{\text{nat}}} \times 100\%$

D. $I_D = \frac{e_{\max} - e_{\text{nat}}}{e_{\max} - e_{\min}} \times 100\%$

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142. Which of the following is not involved in the formation of rate?

- A. Quantity of materials required
- B. Cost of material to be consumed
- C. Skill of persons involved
- D. Overhead expenditures

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143. What is the value of maximum strain in concrete for limit state of collapse in flexure at the compression fibre?

- A. 3.5
- B. 0.35
- C. 0.0035
- D. 0.035

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144. As per IS 15797-2008 (Roof top rainwater harvesting guidelines), the storage capacity of water tank required for 5 persons consuming 20 litre water per person per day having 100 days of dry season in a year will be ----- m^3 .

- A. 20 m^3
- B. 15 m^3
- C. 13.5 m^3
- D. 10 m^3

145. The effective throat thickness of a fillet weld is 'K' times the size of the weld. For a 70° angle between fusion faces, the value of 'K' will be-

- A. 0.7
- B. 0.65
- C. 0.6
- D. 1.0

146. In a Derrick crane, the boom can revolve through -----

- A. 90°
- B. 180°
- C. 270°
- D. 360°



147. The pitch of a staircase for design of a residential building must vary in the range of ----- degrees.

- A. 5° to 15°
- B. 16° to 24°
- C. 45° to 55°
- D. 25° to 40°

148. As per National Building Code of India 2016, for planning of only one room, the area of habitable room shall not be less than ----- m^2 , with a minimum width of ----- m.

- A. 9.5 ; 2.4
- B. 5.5 ; 1.8
- C. 4.5 ; 2.4
- D. 6.5 ; 2.8

149. Calculate the strength of a 20 mm diameter bolt of grade 4.6 for lap joint in shear. The main plate to be jointed are 12 mm thick.

Where $f_u = 410 \text{ MPa}$,

$f_{ub} = 400 \text{ MPa}$, $\gamma_{mb} = 1.25$

$A_{nb} = 245 \text{ mm}^2$ (for 20 mm bolt).

- A. 96.0 kN
- B. 22.5 kN
- C. 50 kN
- D. 45.26 kN

150. For no tension in a circular section of column, an axial load can be placed at a maximum eccentricity equal to-

- A. $d/3$
- B. $d/2$
- C. $d/6$
- D. $d/8$



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