

पुस्तिका में पृष्ठों की संख्या : 16  
Number of Pages in Booklet : 16

पुस्तिका में प्रश्नों की संख्या : 120  
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**CAE-32**

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

7007881

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.



अधिकतम अंक : 120  
Maximum Marks : 120

प्रश्न-पुस्तिका के पेपर की सील/पॉलिथीन 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 है।
- 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.
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### परीक्षार्थियों के लिए निर्देश

1. सभी प्रश्नों के उत्तर दीजिए।
2. सभी प्रश्नों के अंक समान हैं।
3. प्रत्येक प्रश्न का मात्र एक ही उत्तर दीजिए।
4. एक से अधिक उत्तर देने की दशा में प्रश्न के उत्तर को गलत माना जाएगा।
5. 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।
6. कृपया अपना रोल नम्बर ओ.एम.आर. उत्तर-पत्रक पर सावधानीपूर्वक सही भरें। गलत रोल नम्बर भरने पर परीक्षार्थी स्वयं उत्तरदायी होगा।
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 चार वैकल्पिक उत्तर दिये गये हैं, जिन्हें क्रमशः 1, 2, 3, 4 अंकित किया गया है। अभ्यर्थी को सही उत्तर निर्दिष्ट करते हुए उनमें से केवल एक गोले अथवा बबल को उत्तर-पत्रक पर नीले बॉल पॉइंट पेन से गहरा करना है।
9. यदि किसी प्रश्न में किसी प्रकार की कोई मुद्रण या तथ्यात्मक प्रकार की त्रुटि हो तो प्रश्न के हिन्दी तथा अंग्रेजी रूपान्तरों में से अंग्रेजी रूपान्तर मान्य होगा।
10. मोबाइल फोन अथवा 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 (अनुचित साधनों की रोकथाम) 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।

### INSTRUCTIONS FOR CANDIDATES

1. Answer all questions.
2. All questions carry equal marks.
3. Only one answer is to be given for each question.
4. If more than one answers are marked, it would be treated as wrong answer.
5. 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.
6. Please correctly fill your Roll Number in O.M.R. Answer Sheet. Candidates will themselves be responsible for filling wrong Roll No.
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 four alternative responses marked serially as 1, 2, 3, 4. You have to darken only one circle or bubble indicating the correct answer on the Answer Sheet using Blue Ball Point Pen.
9. If there is any sort of ambiguity/ mistake either of printing or factual nature then out of Hindi and English Version of the question, the English Version will be treated as standard.
10. 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 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 liable to be prosecuted under Rajasthan Public Examination (Prevention of Unfair Means) Act, 2022 & any other law applicable and Commission's Rules-Regulations. Commission may also debar him/her permanently from all future examinations.

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। परीक्षार्थी कार्बन प्रति को अपने साथ ले जायेंगे।



1. स्वतंत्रता से कुछ दिन पहले, मणिपुर के महाराजा, \_\_\_\_\_ ने, मणिपुर की आंतरिक स्वायत्तता को बनाए रखने के आश्वासन पर भारत सरकार के साथ विलय पत्र पर हस्ताक्षर किए।  
 (1) नारा सिंह (2) गंभीर सिंह  
 (3) बोधचंद्र सिंह (4) सुरचंद्र सिंह
2. \_\_\_\_\_ अपने काले-लाल प्रिंट के लिए प्रसिद्ध है जिसमें फूलों, पत्तियों, जानवरों और पक्षियों को मटिया (मिट्टी) रंग के आधार पर लाल और काले रंग में बनाया जाता है।  
 (1) सांगानेरी (2) कैथून  
 (3) बगरू (4) अकोला
3. पुरुषों और महिलाओं द्वारा किया जाने वाला निम्नलिखित में से कौन सा नृत्य सिरोही क्षेत्र के गरसिया जनजाति का प्रसिद्ध नृत्य है?  
 (1) तेरह ताली नृत्य (2) अग्नि नृत्य  
 (3) वालर नृत्य (4) बम नृत्य
4. किसी व्यक्ति विशेष और राजवंश की उपलब्धियों और घटनाओं पर प्रकाश डालने वाली कृतियों को \_\_\_\_\_ कहा जाता है।  
 (1) विगत (2) प्रकास  
 (3) वेली (4) साखी
5. निम्नलिखित में से कौन सा 1919 में ब्रिटिश सरकार के खिलाफ पहला अखिल भारतीय संघर्ष आंदोलन बना?  
 (1) दांडी मार्च  
 (2) रौलट सत्याग्रह  
 (3) असहयोग आंदोलन  
 (4) खिलाफत आंदोलन
6. विद्युत सर्किट में कैपेसिटर का मुख्य कार्य क्या है?  
 (1) विद्युत आवेग संग्रह करने के लिए  
 (2) करंट बढ़ाने के लिए  
 (3) एसी को डीसी में परिवर्तित करने के लिए  
 (4) वोल्टेज को विनियमित करने के लिए

1. A few days before independence, the Maharaja of Manipur, \_\_\_\_\_, signed the Instrument of Accession with the Indian government on the assurance that the internal autonomy of Manipur would be maintained.  
 (1) Nara Singh  
 (2) Gambhir Singh  
 (3) Bodhachandra Singh  
 (4) Surachandra Singh
2. \_\_\_\_\_ is famous for its black - red prints in which flowers, leaves, animals and birds are made in red and black on the base in matia (earthen) colour.  
 (1) Sanganeri (2) Kaithoon  
 (3) Bagru (4) Akola
3. Which of the following dance performed by men and women is a famous dance of Garasiya tribe of the Sirohi region?  
 (1) Terah Taali Dance  
 (2) Agni Dance  
 (3) Walar Dance  
 (4) Bum Dance
4. The works which throw light on the achievements and incidents of a particular individual and dynasty are called \_\_\_\_\_.  
 (1) Vigat (2) Prakas  
 (3) Veli (4) Saakhi
5. Which of the following became the first All India Struggle Movement against British government in 1919?  
 (1) Dandi March  
 (2) Rowlatt Satyagraha  
 (3) Non-Cooperation Movement  
 (4) Khilafat Agitation
6. What is the main function of a capacitor in an electronic circuit?  
 (1) To store electric charge  
 (2) To amplify current  
 (3) To convert AC to DC  
 (4) To regulate voltage

7. निम्नलिखित में से कौन सा तत्व इलेक्ट्रॉनिक उपकरणों में अर्धचालक के रूप में प्रयोग किया जाता है?
- (1) सोना (2) चांदी  
(3) प्लैटिनम (4) सिलिकॉन
8. निम्नलिखित में से कौन सा दूरसंचार (टेलीकम्यूनिकेशन) प्रणाली में एक मॉडेम का प्राथमिक कार्य है?
- (1) टेलीफोन लाइनों पर प्रसारण के लिए डिजिटल सिग्नल को एनालॉग सिग्नल में बदलने के लिए।  
(2) इंटरनेट पर प्रसारण के लिए एनालॉग सिग्नल को डिजिटल सिग्नल में परिवर्तित करने के लिए।  
(3) लंबी दूरी के संचरण के लिए संकेतों को बढ़ाना।  
(4) सिग्नल से शोर और विघ्न/बाधा को दूर करने के लिए।
9. हवा के गुणवत्ता सूचकांक (एक्यूआई) और मानव स्वास्थ्य पर निलंबित कण पदार्थ की उपस्थिति का प्रभाव निम्न में से कौन सा है ?
- (1) हवा का गुणवत्ता सूचकांक बढ़ाता है और इसका कोई महत्वपूर्ण स्वास्थ्य प्रभाव नहीं है।  
(2) हवा का गुणवत्ता सूचकांक घटाता है और इसका कोई महत्वपूर्ण स्वास्थ्य प्रभाव नहीं है।  
(3) हवा का गुणवत्ता सूचकांक बढ़ाता है और श्वसन संबंधी समस्याएँ पैदा कर सकता है।  
(4) हवा का गुणवत्ता सूचकांक घटाता है और श्वसन संबंधी समस्याएँ पैदा कर सकता है।
10. निम्नलिखित में से कौन सा गैर- परिवर्तनशील (स्थायी) मेमोरी का प्रकार है जो आमतौर पर कम्प्यूटर सिस्टम में फर्मवेयर और ऑपरेटिंग सिस्टम को स्टोर करने के लिए उपयोग किया जाता है ?
- (1) रैम (RAM) (2) रोम (ROM)  
(3) वर्चुअल मेमोरी (4) कैश मेमोरी
11. निम्न में से कौन सा संचार उपग्रहों द्वारा उपयोग की जाने वाली कक्षा का एक प्रकार है जो उन्हें पृथ्वी की सतह के सापेक्ष एक निश्चित स्थिति में रहने की अनुमति देता है ?
- (1) निम्न पृथ्वी की कक्षा  
(2) भूस्थैतिक कक्षा  
(3) ध्रुवीय कक्षा  
(4) सूर्य समकालिक कक्षा

7. Which of the following elements is used as a semiconductor in electronic devices ?
- (1) Gold (2) Silver  
(3) Platinum (4) Silicon
8. Which of the following is the primary function of a modem in a telecommunication system ?
- (1) To convert digital signals to analog signals for transmission over telephone lines  
(2) To convert analog signals to digital signals for transmission over the internet  
(3) To amplify signals for longer distance transmission  
(4) To filter out noise and interference from the signal
9. Which of the following is the effect of the presence of suspended particulate matter on the Air Quality Index (AQI) and human health ?
- (1) Increases AQI and has no significant health impact  
(2) Decreases AQI and has no significant health impact  
(3) Increases AQI and can cause respiratory problems  
(4) Decreases AQI and can cause respiratory problems
10. Which of the following is a type of non-volatile memory that is commonly used for storing firmware and operating systems in computer systems ?
- (1) RAM  
(2) ROM  
(3) Virtual memory  
(4) Cache memory
11. Which of the following is a type of orbit used by communication satellites that allows them to remain in a fixed position relative to the Earth's surface ?
- (1) Low Earth Orbit  
(2) Geostationary Orbit  
(3) Polar Orbit  
(4) Sun Synchronous Orbit

12. सॉफ्टवेयर डेवलपमेंट में वर्जन कंट्रोल के लिए आमतौर पर निम्नलिखित में से कौन सा सॉफ्टवेयर टूल इस्तेमाल किया जाता है?  
 (1) ऑटोकैड (2) एडोब फोटोशॉप  
 (3) रूबी (4) गिट
13. इंदिरा गांधी नहर परियोजना की कुल लंबाई लगभग कितनी है?  
 (1) 150 किमी (2) 350 किमी  
 (3) 650 किमी (4) 850 किमी
14. निम्नलिखित में से किस पंचवर्षीय योजना का उद्देश्य "स्थिरता के साथ विकास" के रूप में परिभाषित किया गया था?  
 (1) चौथी पंचवर्षीय योजना  
 (2) दसवीं पंचवर्षीय योजना  
 (3) बारहवीं पंचवर्षीय योजना  
 (4) चौदहवीं पंचवर्षीय योजना
15. हाल ही की रिपोर्ट के अनुसार, राजस्थान भारत में बाजरा फसल के उत्पादन में किस स्थान पर है?  
 (1) पहला (2) दूसरा  
 (3) तीसरा (4) सातवाँ
16. वित्त वर्ष 2023-24 के केंद्रीय बजट में देश को 'अमृत काल' की दिशा में निर्देशित करने के लिए कितनी प्राथमिकताओं को अपनाया गया?  
 (1) पाँच प्राथमिकताएँ (2) छह प्राथमिकताएँ  
 (3) सात प्राथमिकताएँ (4) आठ प्राथमिकताएँ
17. भारत में किस आर्थिक सुधार ने राजस्थान सहित कई राज्यों को लाभान्वित करने वाले सूक्ष्म, लघु और मध्यम उद्यमों (MSME) के लिए एक नई क्रेडिट गारंटी योजना शुरू की है?  
 (1) पीएम-किसान योजना (2) पीएलआई योजना  
 (3) ईसीएलजी योजना (4) एबीआर योजना
18. निम्नलिखित में से किसे राजस्थान में हस्तशिल्प के लिए निर्यात उत्कृष्टता के शहर के रूप में नामित किया गया है?  
 (1) पाली (2) बीकानेर  
 (3) जयपुर (4) उदयपुर
19. राजस्थान में सफेद सीमेंट बनाने का पहला कारखाना 1984 में कहाँ स्थापित किया गया था ?  
 (1) केकड़ी (अजमेर) (2) ब्यावर (अजमेर)  
 (3) रींगस (जयपुर) (4) गोटन (नागौर).
12. Which of the following software tools is commonly used for version control in software development ?  
 (1) AutoCAD  
 (2) Adobe Photoshop  
 (3) Ruby  
 (4) Git
13. What is the total length of Indira Gandhi Canal Project approximately ?  
 (1) 150 km (2) 350 km  
 (3) 650 km (4) 850 km
14. Which of the following five year plans, had objective defined as "Growth with Stability" ?  
 (1) Fourth Five-year plan  
 (2) Tenth Five-year plan  
 (3) Twelfth Five-year plan  
 (4) Fourteenth Five-year plan
15. According to recent report, Rajasthan holds what rank in production of Pearl-millet crop in India ?  
 (1) First (2) Second  
 (3) Third (4) Seventh
16. How many priorities were adopted in the Union Budget for F.Y. 2023-24 to guide the country towards 'Amrit Kaal' ?  
 (1) Five Priorities  
 (2) Six Priorities  
 (3) Seven Priorities  
 (4) Eight Priorities
17. Which economic reform in India has introduced a new credit guarantee scheme for Micro, Small and Medium Enterprises (MSMEs) benefitting many states including Rajasthan ?  
 (1) PM-KISAN Scheme  
 (2) PLI Scheme  
 (3) ECLG Scheme  
 (4) ABR Yojana
18. Which of the following is designated as town of export excellence for Handicrafts in Rajasthan ?  
 (1) Pali (2) Bikaner  
 (3) Jaipur (4) Udaipur
19. The first factory to manufacture white cement in Rajasthan started in 1984 was established in which of the following place ?  
 (1) Kekri (Ajmer)  
 (2) Beawar (Ajmer)  
 (3) Ringus (Jaipur)  
 (4) Gotan (Nagaur)



20. राजस्थान में निम्नलिखित में से कौन सी नदी चंबल नदी की सहायक नदी नहीं है?
- (1) काली सिंध (2) बनास  
(3) परबती (4) लूनी
21. निम्नलिखित में से कौन सा कोटा में स्थित टाइगर रिजर्व के लिए प्रसिद्ध है?
- (1) नाहरगढ़ जैविक उद्यान  
(2) मछिया सफारी पार्क  
(3) केवलादेव राष्ट्रीय उद्यान  
(4) मुकुंदरा रिजर्व पार्क
22. संयुक्त राज्य अमेरिका में ग्रैंड कैन्यन के निर्माण के लिए निम्नलिखित में से कौन सी भूगर्भीय घटना एक कारण थी?
- (1) ज्वालामुखी विस्फोट  
(2) ग्लेशियर  
(3) उल्का प्रहार  
(4) नदी अपरदन
23. निम्नलिखित में से किस PSU ने हाल ही में राजस्थान में 1 GW सौर संयंत्र स्थापित करने के लिए राजस्थान सरकार से संपर्क किया है?
- (1) एचपीसीएल (2) ओएनजीसी  
(3) आईओसी (4) एनटीपीसी
24. राजस्थान के निम्नलिखित में से किस जिले में जलोढ़ मिट्टी पाई जाती है?
- (1) कोटा (2) बूंदी (3) बारां (4) दौसा
25. निम्नलिखित में से कौन सी विश्व की सबसे लंबी पर्वत श्रृंखला है?
- (1) राँकी पर्वत (2) एंडीज  
(3) हिमालय (4) यूराल पर्वत
26. राजस्थान में निम्नलिखित में से किस जिले में सर्वाधिक (मिलियन टन) ताँबे का भंडार है?
- (1) अलवर (2) चित्तौड़गढ़  
(3) पाली (4) झुंझुनू
27. प्रधानमंत्री आवास योजना - अर्बन (पीएमएवाई-यू) के तहत, पात्र लाभार्थियों को प्रदान की जाने वाली क्रेडिट-लिंक्ड सब्सिडी की अवधि क्या है?
- (1) 10 साल या कार्यकाल  
(2) 15 साल या कार्यकाल  
(3) 20 साल या कार्यकाल  
(4) 25 साल या कार्यकाल

20. Which of the following rivers in Rajasthan is not a tributary of Chambal river?
- (1) Kali Sindh (2) Banas  
(3) Parbati (4) Luni
21. Which of the following is situated in Kota, is famous for Tiger reserve?
- (1) Nahargarh Biological Park  
(2) Machhiya Safari Park  
(3) Keoladeo National Park  
(4) Mukundara Reserve Park
22. Which of the following geological events was one of the reasons for the formation of the Grand Canyon in the United States?
- (1) Volcanic eruption  
(2) Glaciers  
(3) Meteor strike  
(4) River erosion
23. Which of the following PSUs, has recently approached Rajasthan Government to set up 1 GW Solar plant in Rajasthan?
- (1) HPCL (2) ONGC  
(3) IOC (4) NTPC
24. Alluvial soil is found in which of the following districts of Rajasthan?
- (1) Kota (2) Bundi  
(3) Baran (4) Dausa
25. Which of the following is world's longest mountain range?
- (1) Rocky Mountains  
(2) Andes  
(3) The Himalayas  
(4) Ural Mountains
26. Which of the following districts, has the highest (Million Tonnes) copper deposits in Rajasthan?
- (1) Alwar (2) Chittorgarh  
(3) Pali (4) Jhunjhunu
27. Under the Pradhan Mantri Awaas Yojana - Urban (PMAY-U), what is the tenure of the credit-linked subsidy provided to eligible beneficiaries?
- (1) 10 Years or Tenure  
(2) 15 Years or Tenure  
(3) 20 Years or Tenure  
(4) 25 Years or Tenure

28. निम्नलिखित में से कौन सा अमृत योजना का ध्यान केंद्रित क्षेत्र नहीं है ?

- (1) जल आपूर्ति
- (2) जल अपशिष्ट प्रबंधन और स्वच्छता
- (3) हरित क्षेत्र / उद्यान
- (4) किफायती आवास

29. 2015 में हृदय योजना के अमल के लिए निम्नलिखित शहरों में से किसका चयन नहीं किया गया है ?

- (1) अजमेर
- (2) बादामी
- (3) चंडीगढ़
- (4) द्वारका

30. राष्ट्रीय शहरी आजीविका मिशन (नेशनल अर्बन लाइवलीहुड मिशन) के तहत, स्व-रोजगार कार्यक्रम (सेल्फ-एम्प्लॉयमेंट प्रोग्राम) के तहत एक व्यक्ति द्वारा अधिकतम कितनी राशि का ऋण लिया जा सकता है ?

- (1) ₹ 50,000
- (2) ₹ 1,00,000
- (3) ₹ 2,00,000
- (4) ₹ 5,00,000

31. इंदिरा गांधी शहरी रोजगार गारंटी योजना के तहत राजस्थान के शहरी क्षेत्रों में रहने वाले परिवारों को एक वर्ष में कितने दिनों के रोजगार की गारंटी दी जाती है ?

- (1) 50 दिन
- (2) 125 दिन
- (3) 150 दिन
- (4) इनमें से कोई नहीं

32. शहरी क्षेत्रों के फुटपाथी दुकानदारों (स्ट्रीट वेंडर्स) और बेरोजगार युवाओं को ₹ 50,000 तक का ब्याज मुक्त ऋण प्रदान करने के लिए राजस्थान में निम्नलिखित में से कौन सी योजना शुरू की गई ?

- (1) इंदिरा रसोई योजना
- (2) इंदिरा गांधी क्रेडिट कार्ड योजना
- (3) इंदिरा गांधी रोजगार गारंटी योजना
- (4) इंदिरा गांधी शहरी आजीविका मिशन

33. इंदिरा रसोई योजना का उद्देश्य प्रति दिन लगभग कितने लोगों को लाभान्वित करना है ?

- (1) 50,000
- (2) 1.1 लाख
- (3) 2.3 लाख
- (4) 5 लाख

28. Which of the following is not a focus area of the AMRUT scheme ?

- (1) Water Supply
- (2) Water Waste Management and Sanitation
- (3) Green Space/Parks
- (4) Affordable Housing



29. Which of the following cities have not been selected for the implementation of the HRIDAY scheme in 2015 ?

- (1) Ajmer
- (2) Badami
- (3) Chandigarh
- (4) Dwarka

30. Under the National Urban Livelihood Mission (NULM), what is the maximum amount of loan that can be availed by an individual under the Self-Employment Programme (SEP) ?

- (1) ₹ 50,000
- (2) ₹ 1,00,000
- (3) ₹ 2,00,000
- (4) ₹ 5,00,000

31. Under Indira Gandhi Urban Employment Guarantee Scheme, how many days of employment is guaranteed in a year to the families living in Urban areas of Rajasthan ?

- (1) 50 days
- (2) 125 days
- (3) 150 days
- (4) None of these

32. Which of the following scheme was launched in Rajasthan to provide upto ₹ 50,000 interest free loan to street vendors and unemployed youth of urban areas?

- (1) Indira Rasoi Yojana
- (2) Indira Gandhi Credit Card Yojana
- (3) Indira Gandhi Rojgar Guarantee Yojana
- (4) Indira Gandhi Urban Livelihood Mission

33. Indira Rasoi Yojana, aims to benefit approximately how many people per day ?

- (1) 50,000
- (2) 1.1 Lakhs
- (3) 2.3 Lakhs
- (4) 5 Lakhs

34. निम्नलिखित में से किस मेले को कैला देवी चैत्र मेला के नाम से भी जाना जाता है, जो हाल ही में मार्च, 2023 में करौली जिले में मनाया गया था ?



- (1) करणी माता मेला (2) लक्खी मेला  
(3) चन्नी चैरी मेला (4) चंद्र भागा मेला

35. राजस्थान के किस जिले में 'पीपलखुंट हाई लेवल कैनाल' द्वारा सिंचाई की सुविधा प्रदान की जायेगी ?

- (1) टोंक (2) बाड़मेर  
(3) प्रतापगढ़ (4) भीलवाड़ा

36. राजस्थान की पहली बंदे भारत एक्सप्रेस को प्रधानमंत्री ने झंडी दिखाकर रवाना किया, जो निम्नलिखित में से किन स्टेशन के बीच चलती है ?

- (1) उदयपुर-अहमदाबाद  
(2) कोटा-मुंबई सीएसएमटी  
(3) जयपुर-चंडीगढ़  
(4) अजमेर-दिल्ली कैंट

37. निम्नलिखित में से किस देश में 'बुजी पुल' भारत द्वारा बनाया गया था और हाल ही में विदेश मंत्री डॉ. एस. जयशंकर द्वारा इसका उद्घाटन किया गया था ?

- (1) सूडान (2) मोज़ाम्बिक  
(3) उरुग्वे (4) चिली

38. मार्च, 2023 में किस देश में पहला अंतर्राष्ट्रीय क्वांटम संचार सम्मेलन आयोजित किया गया था ?

- (1) भारत (2) चीन  
(3) यूएसए (4) स्विट्जरलैंड

39. पुष्कर में आनासागर झील और वराह मंदिर का निर्माण किसने करवाया था ?

- (1) अजयराज (2) अणोराज  
(3) विग्रहराज चतुर्थ (4) पृथ्वीराज तृतीय

40. कामड़िया पंथ की स्थापना \_\_\_\_\_ द्वारा की गई थी।

- (1) तेजाजी (2) पाबूजी  
(3) रामदेवजी (4) हरभुजी

34. Which of the following fairs is also known as Kaila Devi Chaitra Mela, recently celebrated in Karauli district in March 2023 ?

- (1) Karni Mata Mela  
(2) Lakkhi Mela  
(3) Channi Cheri Mela  
(4) Chandra Bhaga Mela

35. In which district of Rajasthan, 'Pipalkhunt High Level Canal' will provide irrigation facility ?

- (1) Tonk (2) Barmer  
(3) Pratapgarh (4) Bhilwara

36. Rajasthan's first Vande Bharat Express was flagged off by Prime Minister, that runs between which of the following stations?

- (1) Udaipur - Ahmedabad  
(2) Kota - Mumbai CSMT  
(3) Jaipur - Chandigarh  
(4) Ajmer - Delhi Cantt

37. In which of the following countries, was the "Buzi Bridge" made by India and recently was inaugurated by External affairs minister Dr. S. Jaishankar?

- (1) Sudan (2) Mozambique  
(3) Uruguay (4) Chile

38. 1<sup>st</sup> International Quantum Communication Conclave was organized in which country in March 2023 ?

- (1) India (2) China  
(3) USA (4) Switzerland

39. Who built the Aanasagar Lake and the Varaha Temple at Pushkar?

- (1) Ajayraj (2) Arnoraj  
(3) Vighraaj IV (4) Prithviraj III

40. Kamadia Panth was founded by \_\_\_\_\_.

- (1) Tejaji (2) Pabuji  
(3) Ramdevji (4) Harbhujji



41. Select the correct order of performing engineering survey for roads, railways and irrigation works.

- (1) Preliminary Survey, Reconnaissance Survey, Location Survey
- (2) Preliminary Survey, Location Survey, Reconnaissance Survey
- (3) Location Survey, Reconnaissance Survey, Preliminary Survey
- (4) Reconnaissance Survey, Preliminary Survey, Location Survey

42. Read the following statements carefully :

- A. Length of Gunter's Chain is 66 ft.
- B. Gunter's Chain is divided in 66 links.
- C. Gunter's Chain is also known as Surveyor's Chain.

Which of the following statement/s is/are correct ?

- (1) Only statement A is correct.
- (2) Only statement B is correct.
- (3) Statement A and C are correct.
- (4) All statements are correct.

43. Which of the following triangulation would have longest base line ?

- (1) First order      (2) Second order
- (3) Third order      (4) Fourth order

44. Select the correct advantage of tacheometric surveying.

- (1) Speed of surveying is low but result is highly precise.
- (2) Survey can be performed in poor visibility.
- (3) Chain can be used to measure the distance between two points.
- (4) Cost of surveying is less.

45. \_\_\_\_\_ is the horizontal distance between two points on any two consecutive contours and \_\_\_\_\_ is the vertical distance between two consecutive contour lines.

- (1) Contour intervals, Contour slope
- (2) Horizontal equivalent, Contour intervals
- (3) Contour gap, Contour slope
- (4) Contour gap, Horizontal equivalent

46. An area of a plan is to be determined by using an Ambler polar planimeter. What does 'N' mean in equation of area =  $M(F - I \pm 10N + C)$  of this planimeter ?

- (1) Number of sides of the traverse
- (2) Number of cellular units of plan
- (3) Number of complete revolutions of the disc
- (4) Number of stations in the plan

47. Select the first step to be performed in the procedure for setting the curve.

- (1) Swing the arc of chord length  $C_1$  from point  $A_1$  ( $A_1$  lies on the line  $T_1V$ , where  $V$  is the vertex of the curve).
- (2) Locate the tangents Point  $T_1$  and  $T_2$  and determine the length of first and last sub-chords.
- (3) Check whether the last point coincides with tangent point  $T_2$ .
- (4) The closing error is distributed.

48. If the natural state of cohesionless soil is in its densest state then the degree of density becomes

- (1) zero                      (2) unity
- (3) negative                (4) not defined

49. An oven-dried soil having a mass of 200 g is placed in a pycnometer which is completely filled with water. The mass of empty pycnometer is 125 g. The specific gravity of soil mass shall be calculated as

- (1) 2.67                      (2) 1.67
- (3) 2.65                      (4) 1.65



50. Which of the following option is correct if the clay sample has activity 1.49?

- (1) Illite clay mineral
- (2) Kaolinite clay mineral
- (3) Montmorillonite clay mineral
- (4) No comments

51. A horizontal stratified soil deposits consists of three uniform layers of thickness 4, 1 and 2 units respectively. The permeabilities of these three layers are 2, 1 and 4 units. Which relation is correct for effective average permeability of the soil deposits in horizontal and vertical direction?

- (1)  $k_x < k_z$
- (2)  $k_x = k_z$
- (3)  $k_x \cdot k_z = 1$
- (4)  $k_x > k_z$

52. Complex potential is defined as

- (1)  $\phi + i\psi$
- (2)  $\phi - i\psi$
- (3)  $\psi + i\phi$
- (4)  $\psi - i\phi$

53. Match list-I with list-II and select the correct answer by the codes given below:

List - I

List - II

a. Boussinesq influence factor under concentrated load

$$1. \frac{1}{p \left[ 1 + 2 \left( \frac{r}{z} \right)^2 \right]^{3/2}}$$

b. Boussinesq influence factor under uniformly distributed circular load

$$2. 1 - \left[ \frac{1}{1 + \left( \frac{a}{z} \right)^2} \right]^{3/2}$$

c. Westergaard influence factor under point load

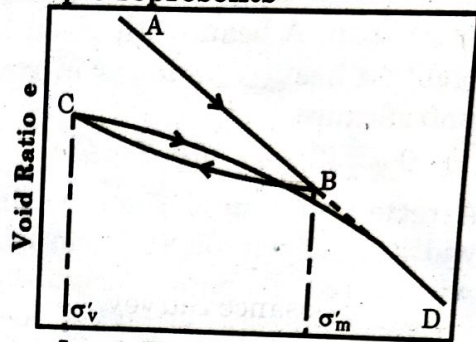
$$3. 1 - \left[ \frac{1}{1 + \left( \frac{a}{\eta z} \right)^2} \right]^{1/2}$$

d. Westergaard influence factor under uniformly distributed circular load

$$4. \frac{3}{2p} \left[ \frac{1}{1 + \left( \frac{r}{z} \right)^2} \right]^{5/2}$$

- (1)  $a \rightarrow 1, b \rightarrow 3, c \rightarrow 4, d \rightarrow 2$
- (2)  $a \rightarrow 4, b \rightarrow 2, c \rightarrow 1, d \rightarrow 3$
- (3)  $a \rightarrow 2, b \rightarrow 1, c \rightarrow 3, d \rightarrow 4$
- (4)  $a \rightarrow 3, b \rightarrow 4, c \rightarrow 2, d \rightarrow 1$

54. The segment BC shown in pressure void ratio curve for remoulded soil sample represents



- (1) Recompression
- (2) Virgin compression curve
- (3) Expansion
- (4) Decompression

55. The radius of Mohr circle drawn for unconfined compression test on saturated clay is equal to

- (1) the apparent cohesion.
- (2) the unconfined compressive strength.

$$(3) \sqrt{\left\{ \frac{1}{2} (s_y - s_x) \right\}^2 + t_{xy}^2}$$

$$(4) \frac{s_1 + s_3}{2}$$

56. The ratio of horizontal to vertical stress for elastic equilibrium of soil considering the angle of shearing resistance of  $30^\circ$  shall be

- (1) 1.
- (2) 3.
- (3) 0.33.
- (4) 0.5.

57. The allowable bearing pressure on spread footing constructed on sand should be such that the differential settlement does not exceed

- (1)  $\frac{1}{450}$
- (2)  $\frac{1}{300}$
- (3)  $\frac{1}{500}$
- (4)  $\frac{1}{750}$

58. A homogeneous and isotropic material has density  $2.5 \text{ kN/m}^3$ . The modulus of rigidity and bulk modulus for the material is  $100 \text{ MPa}$  and  $50 \text{ MPa}$  respectively. What is the modulus of elasticity for given material?

- (1)  $1.8 \text{ N/mm}^2$
- (2)  $180 \text{ N/mm}^2$
- (3)  $1800 \text{ N/mm}^2$
- (4)  $180000 \text{ N/mm}^2$

$B = 100$

$$\frac{1}{3} \times 55$$

$$3 \times 55$$

$$G = 100$$

$S_0$

$$E = 3K(1 - 2\mu)$$

59. An overhanging beam of total length  $l$  m, having equal overhangs on both sides carries U.D.L. of  $w$  kN/m on the entire span. A beam with given loading condition has \_\_\_ number of point/s of contraflexure.

- (1) 0 (2) 3 (3) 2 (4) 1

60. A rectangular mild steel specimen of width  $X$  cm and depth  $Y$  cm is loaded with force  $P$  perpendicular to the cross-section, at centroids of specimen. If both width and depth of original specimen is doubled then, determine the ratio of stress in original specimen to modified specimen with same amount of force  $P$ .

- (1) 1 : 2 (2) 4 : 1  
(3) 8 : 1 (4) 2 : 1

61. A cantilever beam of effective span  $l$ , carrying a triangular load of zero per unit length at free support increasing uniformly to  $w$  per unit length at fixed support. Read the below statements carefully about the given beam :

A. S.F. diagram has a straight inclined line.

B. B.M. diagram has a cubical curve.

- (1) Both statements are correct.  
(2) Only first statement is correct.  
(3) Only second statement is correct.  
(4) Both statements are incorrect.

62. A determinate structure had total cost about 2 lakhs rupees. If the same structure would have made with indeterminate structure, then what amount of total saving in cost may be obtained with indeterminate structure ?

- (1) Around 35000 to 45000 rupees.  
(2) Around 10000 to 16000 rupees.  
(3) Around 20000 to 25000 rupees.  
(4) Around 20000 to 30000 rupees.

63. What is the ratio of maximum slope to maximum deflection in a cantilever beam of span  $l$  m subjected to U.D.L. of  $w$  kN/m on the entire span?

- (1)  $\frac{2}{3 \times l}$  (2)  $\frac{2}{4 \times l}$  (3)  $\frac{4}{3 \times l}$  (4)  $\frac{4 \times l}{3}$

64. A Propped cantilever beam is loaded with uniformly distributed load on whole span, such that deflection at prop end of the beam is zero. The reaction of the prop end of the beam is calculated by (Take usual notations for all quantities).

- (1)  $\frac{3wl}{8}$  (2)  $\frac{7wl}{8}$  (3)  $\frac{5wl}{8}$  (4)  $\frac{5wl}{7}$

65. A two spans continuous beam is simply supported by three supports A, B and C from left to right end respectively and subjected to U.D.L. of  $w$  kN/m throughout the span. Then negative bending moment will be generated at

- (1) support A.  
(2) support C.  
(3) support B.  
(4) both supports A and C.

66. Three steel plates are held together by 14 mm diameter rivet. If the load transmitted is 88 kN through this arrangement, estimate the shearing stress in the rivet.



- (1)  $\frac{4 \times 10^3}{7}$  (2)  $\frac{2 \times 10^3}{7}$   
(3)  $\frac{3 \times 10^3}{7}$  (4)  $\frac{7 \times 10^3}{2}$

67. The displacement of joints is selected as redundant in which method of structural analysis ?

- (1) Force method  
(2) Stiffness method  
(3) Flexibility method  
(4) Compatibility method

68. What is the maximum length of open gantries beyond which expansion joint shall be provided ?

- (1) 120 m (2) 150 m  
(3) 180 m (4) 230 m

$bd^3$

$$\frac{PL}{Ae} = \frac{PL}{Ae}$$

$$bd^3 \quad 2 \times 84$$

69. If M25 grade concrete is used as a bedding material for a steel column then the maximum bearing pressure shall be limited to

- (1) 15 MPa. (2) 13.5 MPa.  
(3) 21.75 MPa. (4) 17.5 MPa.

70. What is the ratio of most unfavourable slenderness of each member between the intermediate weld connection of two channel section connected back to back if the most unfavourable ratio of slenderness of the member as a whole is 90 ?

- (1) 40 (2) 54 (3) 63 (4) 45

71. In which type of roof truss the diagonals are in tension under gravity loading ?

- (1) Howe truss  
(2) King post truss  
(3) Pratt truss  
(4) Warren truss

72. When transverse stiffeners are not provided in plate girder and the web of plate girder is connected to flange along one longitudinal edge only then the minimum thickness of web shall be taken as

- (1)  $\frac{d}{200 \epsilon_w}$  (2)  $\frac{d}{340 \epsilon_w}$   
(3)  $\frac{d}{90 \epsilon_w}$  (4)  $\frac{d}{400 \epsilon_w}$

73. What is the minimum vertical distance between the rows of bars if the beam is constructed with 20 mm size aggregate and reinforced with 12 mm diameter bars ?

- (1) 12 mm (2) 14 mm  
(3) 15 mm (4) 20 mm

74. If 300 mm × 600 mm rectangular beam cast with M25 grade concrete subjected to flexure, then the cracking moment of the beam is

- (1) 63 kN. m. (2) 48.3 kN. m.  
(3) 31.5 kN. m. (4) 36 kN. m.

75. What is the depth of rectangular portion in stress block diagram of concrete?

- (1)  $\frac{4}{7} X_u$  (2)  $\frac{3}{7} X_u$   
(3)  $\frac{2}{7} X_u$  (4)  $\frac{5}{7} X_u$

76. The nominal shear stress should not exceed \_\_\_\_\_ for solid slab constructed with M40 grade concrete.

- (1) 4 N/mm<sup>2</sup> (2) 3.1 N/mm<sup>2</sup>  
(3) 2 N/mm<sup>2</sup> (4) 2.8 N/mm<sup>2</sup>

77. The maximum spacing of shear reinforcement for 230 mm wide and 350 mm deep (effective) beam shall not exceed \_\_\_\_\_ when inclined stirrups is provided at 45°.

- (1) 350 mm (2) 225 mm  
(3) 230 mm (4) 300 mm

78. The strength of compression members subjected to helical reinforcement is about \_\_\_\_\_ percent more than the strength of similar member with lateral ties.

- (1) 1.05 (2) 10  
(3) 5 (4) 1.10

79. Which of the following criteria is considered while proportioning the size of footing ?

- (1)  $\frac{P}{A} + \frac{M}{Z} < \text{A.B.P.}$  and  $\frac{P}{A} - \frac{M}{Z} \geq 0$   
(2)  $\frac{P}{A} - \frac{M}{Z} < \text{A.B.P.}$  and  $\frac{P}{A} + \frac{M}{Z} \geq 0$   
(3)  $\frac{P}{A} + \frac{M}{Z} > \text{A.B.P.}$  and  $\frac{P}{A} - \frac{M}{Z} \leq 0$   
(4)  $\frac{P}{A} - \frac{M}{Z} > \text{A.B.P.}$  and  $\frac{P}{A} + \frac{M}{Z} \leq 0$

80. The thickness of base slab for a cantilever retaining wall of 6 m overall height may be considered as

- (1) 300 mm (2) 450 mm  
(3) 350 mm (4) 380 mm

Handwritten notes:  $230 \times 200$ ,  $57.5$ ,  $52.7$

81. The development length of each bar of bundled bars shall be taken as \_\_\_\_\_ times more than that of individual bar when four bars in contact.

- (1) 1.10                      (2) 1.20  
(3) 1.30                      (4) 1.33

82. The nominal cover to meet the requirements of durability for M45 grade concrete under various exposure condition is given below :

Exposure	Minimum nominal cover (mm)
1. Mild	a. 40
2. Severe	b. 45
3. Very severe	c. 50
	d. 20

- (1) 1 → a, 2 → b, 3 → c  
(2) 1 → d, 2 → b, 3 → c  
(3) 1 → d, 2 → a, 3 → c  
(4) 1 → d, 2 → a, 3 → b

83. What is the value of coefficient of discharge when the area of jet of liquid at outlet is equal to the area of mouthpiece ?

- (1) 0.530                      (2) 0.602  
(3) 0.608                      (4) 0.855

84. The atmospheric pressure at sea level at 15 °C is

- (1) 10.13 N/cm<sup>2</sup>      (2) 14.17 N/cm<sup>2</sup>  
(3) 19.75 N/cm<sup>2</sup>      (4) 22.83 N/cm<sup>2</sup>

85. Euler's number has the dimensions as

- (1) ML<sup>-2</sup>T<sup>2</sup>                      (2) ML<sup>-1</sup>T<sup>2</sup>  
(3) MLT<sup>-1</sup>                      (4) M<sup>0</sup>L<sup>0</sup>T<sup>0</sup>

86. A cipolletti weir is constructed for the side slope of \_\_\_\_\_

- (1) 1 horizontal to 4 vertical  
(2) 1 horizontal to 2 vertical  
(3) 2 horizontal to 1 vertical  
(4) 1 horizontal to  $\frac{1}{2}$  vertical

87. Identify the incorrect statement in terms of gradually varied flow.

- (1) The energy correction factor is zero.  
(2) The flow is steady.  
(3) The roughness coefficient is constant for the length of channel.  
(4) The channel is prismatic.

88. Which of the following is not come under self-recording type rain gauge ?

- (1) Tipping bucket rain gauge  
(2) Symon's rain gauge  
(3) Float type rain gauge  
(4) Weighing type rain gauge

89. The reservoir for irrigation may be planned with the value of design yield of about \_\_\_\_\_ times higher than the firm yield.

- (1) 1.10                      (2) 1.30  
(3) 1.05                      (4) 1.20

90. Kennedy gives silt theory for the design of unlined alluvial channels by considering B/D ratio ranging from

- (1) 0.8 to 1.2                      (2) 1.5 to 3  
(3) 3.5 to 12                      (4) 1.5 to 2.5

91. In Khosla's theory, if no cutoff is provided at the downstream end of the floor then the exit gradient becomes

- (1) infinite                      (2) zero  
(3) unity                      (4) negative

92. \_\_\_\_\_ is the rate of flow of water through a vertical strip of aquifer of unit width and extending for the full saturated height under unit hydraulic gradient.

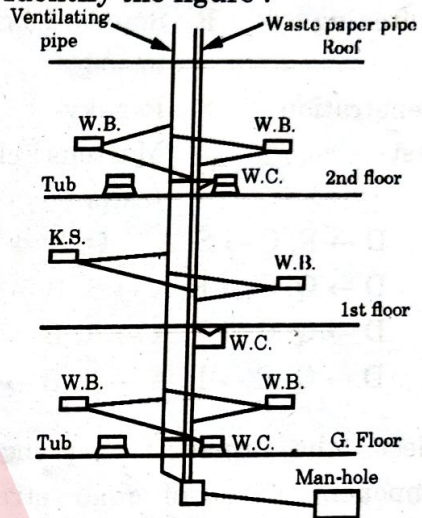
- (1) coefficient of transmissibility  
(2) coefficient of permeability  
(3) coefficient of discharge  
(4) Storativity

$730 \times 10,000$   
 $\frac{730 \times 10,000}{2} = 365$

93. Total quantity of 730 m litres water is required by a town per year having population of 10000. The per capita demand for the town will be of
- (1) 0.73 m<sup>3</sup>/day
  - (2) 200 m<sup>3</sup>/day
  - (3) 0.2 m<sup>3</sup>/day
  - (4) 0.2 litres/day
94. Which of the following method is suitable for forecasting the population of those towns and cities whose development is likely to place according to the national growth of country?
- (1) The Master Plan Method
  - (2) The Apportionment Method
  - (3) The Comparative Graphical Method
  - (4) The Logistic Curve Method
95. Ultra-violet rays are highly disinfectants and kill the disease bacteria, in this disinfection method water is allowed to pass in thickness not exceeding \_\_\_\_\_ before the ultraviolet rays.
- (1) 8 cm
  - (2) 15 cm
  - (3) 12 cm
  - (4) 10 cm
96. The trickling filters are always provided between \_\_\_\_\_ to remove organic solids produced in filtration.
- (1) intermittent filters and contact beds
  - (2) intermittent filters and final settling tank
  - (3) primary sedimentation tank and final settling tank
  - (4) screening and primary sedimentation tank
97. Read the below given statements carefully and identify the correct statements:
- A. Generally grit particles lie between 0.1 to 1 mm in size.
  - B. Stokes law holds good for settling of particles of diameters less than 1 mm.
  - C. Usually the detention period of grit chambers is 60 min.
  - D. The loss of head in a grit chamber varies from 0.06 to 0.6 m.
- (1) A and D
  - (2) B and C
  - (3) A and C
  - (4) B and D

98. The sludge index is the ratio of the volume of activated sludge varies from
- (1) 0 to 100
  - (2) 150 to 300
  - (3) 350 to 500
  - (4) 400 to 550
99. The gas vent area for Imhoff tank is provided as
- (1) 5 to 8% of the plan area.
  - (2) 30 to 35 % of the plan area.
  - (3) 10 to 15% of the plan area.
  - (4) 20 to 25 % of the plan area.

100. Identify the figure :



- (1) Single Stack System
- (2) One-Pipe System
- (3) Two-Pipe System
- (4) Single Stack Partially Ventilated System

101. How many litres of water is required in steel industry for the production of 1 tonne steel?
- (1) 1,75,000
  - (2) 60,000
  - (3) 4,500
  - (4) None of these
102. The depth of tank for a high-rate trickling filter may vary from
- (1) 1.0 to 1.8 m.
  - (2) 2.0 to 2.7 m.
  - (3) 3.0 to 3.9 m.
  - (4) 4.0 to 5.3 m.
103. In Geometrical design of highways, mechanical widening and psychological widening are provided on
- (1) the vertical curves of highways.
  - (2) the horizontal curves of highways.
  - (3) the straight path of highways.
  - (4) the overtaking zones of highways.

104. Match the following list of tests of bituminous materials with its testing apparatus :

Bituminous materials tests	Testing Apparatus
A. Ductility test	P. Ring and Ball test
B. Flash and Fire point test	Q. Penetrometer
C. Softening test	R. Standard briquet mould
D. Penetration test	S. Pensky-Martens closed tester

- (1) D → R, C → S, A → Q, B → P  
 (2) D → Q, C → R, A → S, B → P  
 (3) D → Q, C → P, A → R, B → S  
 (4) D → Q, C → R, A → P, B → S

105. Select the correct sequence of component parts of road structure from top to bottom.

- (1) wearing layer, subgrade, foundation, subsoil  
 (2) wearing layer, foundation, subsoil, subgrade  
 (3) wearing layer, foundation, subgrade, subsoil  
 (4) subsoil, wearing layer, foundation, subgrade

106. Which of the following is a characteristic of rigid pavements ?

- (1) In design of rigid pavements, the strength of sub grade is most important.  
 (2) Its failure is usually due to movement of subgrade.  
 (3) It produces heavy temperature stresses.  
 (4) It cannot resist tensile stresses.

107. The minimum radii of curve recommended for vehicle moving in a hill road which is not snowbound at a speed of 10 m/s is

- (1) 41 m. (2) 3.15 m.  
 (3) 46 m. (4) 3.5 m.

108. The width of entry and the width of non-weaving section for a 4-lane road is 10 m and 7.5 m respectively. The width of weaving section for rotary carriage way should be provided as

- (1) 8.75 m. (2) 12.25 m.  
 (3) 17.5 m. (4) 16 m.

109. Choose the correct option in terms of vehicle registration with its colour of letter and the background of number plate.

- |   |                                    |
|---|------------------------------------|
| i. In case of transport vehicle                       | a. In black on a yellow background |
| ii. In case of temporary registrations                | b. In black on a white background  |
| iii. In case of taxies                                | c. In white on a red background    |
| iv. In case of registration marks allotted to dealers | d. In red on a yellow background   |

- (1) i → c, ii → b, iii → a, iv → d  
 (2) i → d, ii → c, iii → a, iv → b  
 (3) i → b, ii → d, iii → a, iv → c  
 (4) i → b, ii → c, iii → a, iv → d

110. The size of letter for advance direction signs on urban areas may range from

- (1) 20 - 25 cm. (2) 25 - 30 cm.  
 (3) 8 - 15 cm. (4) 8 - 10 cm.

111. Where the needle scaffolding will be most suitable to use ?
- (1) To do painting and repair work inside the rooms
  - (2) When ground is strong to support standards
  - (3) When it is required to keep the ground near to the wall, free for traffic
  - (4) When construction work in the basement of the building is to be carried out
112. A dog legged stair is to be planned in a stair hall of 2.5 m × 5 m size, having vertical distance between the floors 3.6 m. The height of each flight is half of vertical distance between the floors. Find out number of risers and treads in each flight. Take height of single riser be 15 cm and width of tread 25 cm.
- (1) 11, 12                      (2) 12, 11
  - (3) 12, 13                      (4) 12, 12
113. Which of the following is a correct general arbitrary volumetric proportion for a high strength concrete ?
- (1) 1 : 1.3 : 2.8              (2) 1 : 1.2 : 2.4
  - (3) 1 : 1.2 : 2.6              (4) 1 : 1.1 : 2.6
114. What is the aggregate crushing value for a sample having total dry weight of 2.1 kg and weight of material passing through 2.36 mm I.S. sieve is about 0.84 kg after the crushing of aggregates ?
- (1) 40 %                      (2) 45 %
  - (3) 38 %                      (4) 42 %
115. Arrange the constituents of a good brick earth in descending order of them contained in brick earth.
- (1) Silica, Alumina, Lime
  - (2) Alumina, Lime, Silica
  - (3) Lime, Silica, Alumina
  - (4) Silica, Lime, Alumina
116. The few chips or pieces of stones are taken and they are placed in a glass tube to find out the presence of soluble matter in a sample of stone. This is the process of
- (1) Water absorption test.
  - (2) Smith's test.
  - (3) Acid test.
  - (4) Attrition test.
117. The fire load of Domestic buildings should not exceed by an average of \_\_\_\_\_ of the net floor area of any compartment, nor an average of \_\_\_\_\_ on limited isolated areas.
- (1) 550000 k cal/m<sup>2</sup>, 11000000 k cal/m<sup>2</sup>
  - (2) 275000 k cal/m<sup>2</sup>, 550000 k cal/m<sup>2</sup>
  - (3) 1100000 k cal/m<sup>2</sup>, 2200000 k cal/m<sup>2</sup>
  - (4) 550000 k cal/m<sup>2</sup>, 22000000 k cal/m<sup>2</sup>
118. For providing fire resistance to timber by Sir Abel's process, the timber surface should be cleaned and coated with a dilute solution of
- (1) boric acid.
  - (2) calcium silicate.
  - (3) sodium dichromate.
  - (4) sodium silicate.
119. Which of the following statement is incorrect regarding to pit sand ?
- (1) When it is rub between fingers, fine pit sand should not leave any stain on the fingers.
  - (2) It consists of fine rounded grains.
  - (3) It is excavated from a depth of about 1 to 2 m from ground level.
  - (4) It is obtained by forming pits into soils.
120. Which type of bricks are commonly used at places where brickwork is to be provided with a coat of plaster ?
- (1) Second class bricks
  - (2) First class bricks
  - (3) Third class bricks
  - (4) Fourth class bricks