SEE/AE/2020

SET A (Automobile Engineering)

A

प्रश्न-पुस्तिका क्र.
Question Booklet No.
5000081

अनुक्रमांक
Roll No. | | | | | | |

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 : **32**
कुल प्रश्नों की संख्या/Total No. of Questions : **150**
समय/Time : **3 घण्टे/Hours**
पूर्णांक/Total Marks : **450**

परीक्षार्थियों के लिए निर्देश

1. परीक्षा प्रारंभ होने के तुरन्त बाद, आप इस प्रश्न-पुस्तिका की पड़ताल अवश्य कर ले, कि इसमें कोई बिना छपा, फटा या छुटा 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 खंडों में विभाजित हैं । खंड -'अ' तथा खंड -'ब' ।
3. खंड -'अ' के प्रश्न सामान्य अध्ययन से संबंधित है, जिसमें कुल **50** प्रश्न है , सभी प्रश्न हिन्दी तथा अंग्रेजी भाषा में है । **सभी** प्रश्न अनिवार्य हैं ।
4. खंड -'ब' संबंधित इंजीनियरिंग विषय से है । जिसमें कुल **100** प्रश्न है । सभी प्रश्न केवल अंग्रेजी भाषा में है । **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 । **ऋणात्मक मूल्यांकन** का प्रावधान है । प्रत्येक गलत उत्तर के लिए **01** अंक काटा जायेगा ।
6. प्रदत्त उत्तर-पत्र पर दिए गए निर्देशों को ध्यानपूर्वक पढ़ें तथा अपने उत्तर तदनुसार अंकित करें ।
7. कृपया उत्तर-पत्र (ओ.एम.आर. शीट) 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. शीट) पर भी नहीं ।
9. प्रश्न-पत्र हल करने हेतु सामान्य केलकूलेटर ही मान्य किया जावेगा । साइंटिफिक/इंजीनियरिंग केलकूलेटर परीक्षा में मान्य नहीं है ।
10. यदि खंड-'अ' के 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 ।

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 Concerned Engineering Subject. Question are only in English Language. **All** questions are compulsory. Candidates should ensure that he/she got the question paper of the same post for which he/she had applied.
5. **All** questions carry equal marks. **Three** marks for each correct answer. There is provision of **Negative Markings**. For each wrong answer, **one** 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. Only simple calculator is allowed to solve the Question Paper. Scientific/Engineering calculator will not be allowed.
10. If there is any sort of mistake either of printing or of factual nature in any question of Section – A, then out of the Hindi and English versions of the question, the Hindi version will be treated as standard.

SEAL

खंड – अ

1. मलाजखंड निम्नलिखित में से किस खनिज के लिए प्रसिद्ध है ?
   (A) बॉक्साइट
   (B) ताँबा
   (C) डोलोमाइट
   (D) चूना पत्थर

2. बाणसागर परियोजना किस नदी पर स्थित है ?
   (A) केन
   (B) बेतवा
   (C) सोन
   (D) धसान

3. मध्यप्रदेश में गैर-परम्परागत ऊर्जा स्रोतों के अन्तर्गत सर्वाधिक स्थापित क्षमता निम्न में से किस संसाधन की है ?
   (A) पवन ऊर्जा
   (B) सौर ऊर्जा
   (C) बायोमास ऊर्जा
   (D) कचरा से ऊर्जा

4. मध्यप्रदेश में निम्नलिखित में से किस साधन द्वारा सर्वाधिक सिंचाई होती है ?
   (A) नहरें
   (B) तालाब
   (C) कुएँ - ट्यूबवेल
   (D) अन्य साधन

5. विन्ध्याचल सुपर थर्मल पावर स्टेशन निम्नलिखित में से किस जिले में स्थापित है ?
   (A) शहडोल
   (B) बैतूल
   (C) उमरिया
   (D) सिंगरौली

6. रोबोट के चल जोड़ों की संख्या को कहते हैं
   (A) डिग्री ऑफ इन्डिपेंडेंस
   (B) डिग्री ऑफ जाइन्ट्स
   (C) डिग्री ऑफ फ्रीडम
   (D) डिग्री ऑफ मूवमेन्ट

7. किसी भी संदेश की अखण्डता को सत्यापित करने की तकनीक को _____ कहते हैं ।
   (A) मेसेज इन्क्रीप्ट
   (B) मेसेज चेकसम
   (C) मेसेज डायजेस्ट
   (D) उपरोक्त में से कोई नहीं

8. _____ एक ऐसा साफ्टवेयर प्रोग्राम है जो कि इन्टरनेट से आने वाले डाटा को फिल्टर करता है ।
   (A) एन्टीवायरस
   (B) कूकीज
   (C) मालवेयर
   (D) फायरवाल

SECTION – A

1. Malanjkhand is famous for which of the following mineral ?
   (A) Bauxite
   (B) Copper
   (C) Dolomite
   (D) Limestone

2. Bansagar Project is situated on which of the following river ?
   (A) Ken
   (B) Betwa
   (C) Son
   (D) Dhasan

3. In Madhya Pradesh, which of the following resources has the highest established capacity among the non-conventional sources of energy ?
   (A) Wind energy
   (B) Solar energy
   (C) Biomass energy
   (D) Energy from garbage

4. Which of the following sources has highest proportion of irrigation in Madhya Pradesh ?
   (A) Canals
   (B) Tanks
   (C) Wells-tubewells
   (D) Other sources

5. Vindhyachal Super Thermal Power Station is established in which of the following district ?
   (A) Shahdol
   (B) Betul
   (C) Umaria
   (D) Singrauli

6. Number of moveable joints in robot is called
   (A) Degree of independence
   (B) Degree of joints
   (C) Degree of freedom
   (D) Degree of movement

7. Technique to verify message integrity is known as
   (A) Message encrypt
   (B) Message checksum
   (C) Message digest
   (D) None of the above

8. _____ is a software program that filters all the data coming through the internet.
   (A) Antivirus
   (B) Cookies
   (C) Malware
   (D) Firewall

9. एप्लीकेशन एवं डाटा होस्टिंग एवं कनेक्टीविटी एवं क्षमता निर्माण हेतु राष्ट्रीय इ-गवर्नेंस योजना के गठन में सरकार द्वारा प्रदान किये गये बुनियादी ढाँचे के पहलू

(A) एस.डी.सी., एस.डब्ल्यू.ए.एन. एवं ई.एस.डी.जी.

(B) एस.डब्ल्यू.ए.एन., एस.डी.सी. एवं एन.आई.सी.

(C) एस.डब्ल्यू.ए.एन., एस.डी.एल.सी. एवं एन.आई.एस.जी.

(D) इनमें से कोई नहीं

10. सायबर सिक्यूरिटी का दायरा है

(A) वलनरेबिलिटी रिडक्शन

(B) इन्सीडेंट रिस्पांस

(C) रिकवरी पॉलिसी

(D) उपरोक्त सभी

11. निम्नलिखित में से कौन-सा लोकनृत्य निमाड़ी लोकनृत्य से संबंधित **नहीं** है ?

(A) गणगौर

(B) राई

(C) काठी

(D) फेफारिया

12. निम्नलिखित में से कौन-सा मालवा का प्रसिद्ध लोकनाट्य है ?

(A) हिंगोला

(B) छाहुर

(C) मनसुखा

(D) माच

13. बघेलखण्ड का प्राचीन नाम क्या था ?

(A) करुष

(B) माहिषमती

(C) तीरभुक्ति

(D) शुक्तिमती

14. प्रसिद्ध चन्देल सेनायक आल्हा एवं उदल ने किस शासक के विरुद्ध लड़ते हुवे अपने प्राणों की आहुति दी थी ?

(A) अजयराज

(B) अर्णोराज

(C) सिन्धुराज

(D) पृथ्वीराज चौहान

15. निम्नलिखित में से कौन-सी रचना पं. माखनलाल चतुर्वेदी की **नहीं** है ?

(A) हिमकिरीटनी

(B) बिजुरी

(C) हिमतरंगिनी

(D) रसिकप्रिया

9. Infrastructure aspects provided by Government in formation of National e-Governance Plan for application and data hosting and connectivity are

(A) SDC, SWAN and ESDG

(B) SWAN, SDC and NIC

(C) SWAN, SDLC and NISG

(D) None of these

10. The scope of cyber security is

(A) Vulnerability reduction

(B) Incident response

(C) Recovery policy

(D) All of the above

11. Which of the following folk-dance is **not** associated to Nimari folk-dance ?

(A) Gangour

(B) Rai

(C) Kathi

(D) Fefariya

12. Which of the following is a famous folk-drama of Malwa ?

(A) Hingola

(B) Chhahur

(C) Mansukha

(D) Maach

13. What was the ancient name of Baghelkhand ?

(A) Karush

(B) Mahishmati

(C) Teerbhukti

(D) Shuktimati

14. The famous Chandela Generals Alha and Udal lost their lives while fighting against which ruler ?

(A) Ajayraj

(B) Arnoraj

(C) Sindhuraj

(D) Prithviraj Chauhan

15. Which of the following is **not** a composition of Pandit Makhanlal Chaturvedi ?

(A) Himkiritani

(B) Bijuri

(C) Himtarangini

(D) Rasikpriya

16. ओलम्पिक खेलों का आयोजन टोक्यो में किन तिथियों में किया गया ?

(A) 21 जुलाई से 5 अगस्त 2021

(B) 22 जुलाई से 10 अगस्त 2021

(C) 22 जुलाई से 11 अगस्त 2021

(D) 23 जुलाई से 8 अगस्त 2021

17. 2024 के ओलम्पिक खेल किस स्थान पर आयोजित किया जाना तय किया गया है ?

(A) पेरिस

(B) लंदन

(C) जोहान्सबर्ग

(D) बुडापेस्ट

18. आरोग्य सेतु एप भारत सरकार द्वारा किस तिथि पर जारी किया गया ?

(A) 17 जून 2021

(B) 17 जनवरी 2021

(C) 2 अप्रैल 2020

(D) 14 मार्च 2020

19. मध्यप्रदेश सरकार द्वारा राष्ट्रीय शिक्षा नीति 2020 का शुभारम्भ किस तिथि पर किया गया ?

(A) 16 अगस्त 2021

(B) 26 अगस्त 2021

(C) 28 अगस्त 2021

(D) 30 अगस्त 2021

20. 2021 में आयोजित पैरा-ओलम्पिक में भारतीय दल ने कितने स्वर्ण पदक जीते ?

(A) 5

(B) 6

(C) 7

(D) 19

21. मध्यप्रदेश में अगस्त माह में होने वाली वर्षा निम्नलिखित में से मुख्यत: किसके द्वारा होती है ?

(A) उत्तर-पूर्वी मानसून

(B) दक्षिण-पश्चिमी मानसून

(C) शीतकालीन मानसून

(D) चक्रवातीय वर्षा

16. On what dates were the Olympic Games held in Tokyo ?

(A) 21 July to 5 August 2021

(B) 22 July to 10 August 2021

(C) 22 July to 11 August 2021

(D) 23 July to 8 August 2021

17. Where is the 2024 Olympic Games Scheduled to be held ?

(A) Paris

(B) London

(C) Johannesburg

(D) Budapest

18. On which date the Arogya Setu App was launched by the Government of India ?

(A) 17 June 2021

(B) 17 January 2021

(C) 2 April 2020

(D) 14 March 2020

19. On which date the National Education Policy 2020 was launched by the Government of Madhya Pradesh ?

(A) 16 August 2021

(B) 26 August 2021

(C) 28 August 2021

(D) 30 August 2021

20. How many gold medals did the Indian team win in the Paralympics held in 2021 ?

(A) 5

(B) 6

(C) 7

(D) 19

21. Rain occurs in the month of August in Madhya Pradesh is mainly receives from which of the following ?

(A) North-Eastern Monsoon

(B) South-Western Monsoon

(C) Winter Monsoon

(D) Cyclonic Rain

22. मध्यप्रदेश शासन के अनुसार, कुल वन क्षेत्रों का निम्नलिखित में से कितना प्रतिशत संरक्षित वन क्षेत्र के अंतर्गत है ?

(A) 45.6%

(B) 44.6%

(C) 32.8%

(D) 70.2%

23. सोन नदी के दक्षिण तथा नर्मदा–ताप्ती नदी के मध्य निम्नलिखित में से कौन–सी पर्वत श्रेणी है ?

(A) कैमूर श्रेणी

(B) भाण्डेर श्रेणी

(C) विन्ध्याचल श्रेणी

(D) सतपुड़ा–मैकल श्रेणी

24. पश्चिम दिशा में बहने वाली ताप्ती (तापी) नदी का उद्‌गम स्थल है

(A) शाहपुर

(B) चिचोली

(C) भैंसदेही

(D) मुलताई

25. देश के कुल मैंगनीज उत्पादन में मध्यप्रदेश का योगदान कितना है ?

(A) 18.84%

(B) 15.02%

(C) 12.50%

(D) 4.56%

26. निम्नलिखित में से कौन बुन्देली लेखक **नहीं** है ?

(A) जगनिक

(B) महाराज विश्वनाथ सिंह

(C) ईसुरी

(D) गंगाधर व्यास

27. मध्यप्रदेश के किस जिले में जागेश्वरी मेला आयोजित किया जाता है ?

(A) सतना

(B) अशोकनगर

(C) बालाघाट

(D) बड़वानी

28. बुन्देला विद्रोह के दौरान किस क्रान्तिकारी को ब्रिटिश सरकार द्वारा फाँसी दी गई थी ?

(A) नरहुत के मधुकरशाह

(B) भानपुर के बन्देशाह

(C) हीरापुर के जूझार सिंह

(D) इनमें से कोई नहीं

29. बैगा परम्परा के अनुसार सृष्टि के निर्माता कौन हैं ?

(A) ठाकुरदेव

(B) इन्द्रदेव

(C) अग्निदेव

(D) सोमदेव

22. According to the Government of Madhya Pradesh, what percentage of the following area is under protected forests out of the total forest area ?

(A) 45.6%

(B) 44.6%

(C) 32.8%

(D) 70.2%

23. Which of the following mountain range is situated between Narmada-Tapti rivers and South of the Son river ?

(A) Kaimur range

(B) Bhander range

(C) Vindhyachal range

(D) Satpura-Maikal range

24. Which is the origin of the West direction flowing river Tapti (Tapi) ?

(A) Shahpur

(B) Chicholi

(C) Bhainsdehi

(D) Multai

25. Which of the following is the share of Madhya Pradesh in the total manganese production of the country ?

(A) 18.84%

(B) 15.02%

(C) 12.50%

(D) 4.56%

26. Who among the following is **not** a Bundeli writer ?

(A) Jagnik

(B) Maharaj Vishwanath Singh

(C) Isuri

(D) Gangadhar Vyas

27. In which district of Madhya Pradesh, Jageshwari fair is organized ?

(A) Satna

(B) Ashok-nagar

(C) Balaghat

(D) Badwani

28. Which revolutionary was hanged by the British Government during the Bundela rebellion ?

(A) Madhukar Shah of Narhot

(B) Bandeshah of Bhanpur

(C) Jujhar Singh of Herapur

(D) None of these

29. According to the Baiga tradition, who was the creater of the Universe ?

(A) Thakurdev

(B) Indradev

(C) Agnidev

(D) Somdev

30. प्रसिद्ध कलाकार अन्नासाहब रघुनाथ के. फड़के निम्न में से किस कला से सम्बन्धित है ?

(A) मूर्तिकला

(B) नृत्यकला

(C) संगीतकला

(D) चित्रकला

31. इनमें से कौन-सा एक ओपन सोर्स आपरेटिंग सिस्टम **नहीं** है ?

(A) युनिक्स

(B) एन्ड्राइड

(C) विन्डोज

(D) इनमें से कोई नहीं

32. $(1101\ 0001)_2$ बायनरी नम्बर ($)_8$ ऑक्टल नम्बर के बराबर है

(A) $(321)_8$

(B) $(123)_8$

(C) $(641)_8$

(D) $(146)_8$

33. इनमें से कौन-सा कम्प्यूटर के सी.पी.यु. के लिये उपयोग आता है ?

(A) माइक्रोप्रोसेसर

(B) माइक्रोकंट्रोलर

(C) माइक्रोकम्प्यूटर

(D) माइक्रोप्रोग्रामर

34. एक गीगाबाइट में कितने मेगाबाइट होते हैं (बायनरी में) ?

(A) 2048

(B) 1024

(C) 1024×1024

(D) 1048

35. रोबोट संचालन के लिये स्थापित क्षेत्र(स्पेस) का नाम

(A) एन्वायरनमेंट

(B) स्पाशियल स्पेस

(C) वर्क स्पेस

(D) वर्क एन्वलप

36. संविधान के किस अनुच्छेद में मंत्रिपरिषद का कार्य राज्यपाल को ''सहायता और परामर्श'' देना कहा गया है ?

(A) अनुच्छेद – 162

(B) अनुच्छेद – 163

(C) अनुच्छेद – 164

(D) अनुच्छेद – 165

30. The famous artist Annasaheb Raghunath K. Phadke is associated with which of the following art ?

(A) Sculpture

(B) Dance

(C) Music

(D) Painting

31. Which of these is **not** an open source Operating System ?

(A) UNIX

(B) ANDROID

(C) WINDOWS

(D) None of these

32. $(1101\ 0001)_2$ binary number is same as $(\quad)_8$ octal number.

(A) $(321)_8$

(B) $(123)_8$

(C) $(641)_8$

(D) $(146)_8$

33. Which of these is used as CPU in computer ?

(A) Microprocessor

(B) Microcontroller

(C) Microcomputer

(D) Microprogrammer

34. How many megabytes represent one gigabyte (in binary) ?

(A) 2048

(B) 1024

(C) 1024×1024

(D) 1048

35. The space in which a robot operates is called

(A) Environment

(B) Spatial space

(C) Work space

(D) Work envelope

36. In which Article of the Constitution, the function of the Council of Ministers is said to "Assistance and Advise" the Governor ?

(A) Article – 162

(B) Article – 163

(C) Article – 164

(D) Article – 165

37. मध्यप्रदेश में पंचायती राज व्यवस्था कितने स्तर की है ?

(A) दो स्तरीय

(B) त्रिस्तरीय

(C) चार स्तरीय

(D) इनमें से कोई नहीं

38. वन स्टॉप सेंटर (सखी) योजना संबंधित है

(A) हिंसा पीड़ित महिलाओं को सुविधा उपलब्ध कराना

(B) राशन उपलब्ध कराना

(C) स्व-रोजगार

(D) कौशल एवं प्रशिक्षण

39. मध्यप्रदेश का सबसे कम जनसंख्या घनत्व वाला जिला है

(A) झाबुआ

(B) मण्डला

(C) डिंडोरी

(D) सीधी

40. मध्यप्रदेश के निम्नलिखित जिलों को लिंगानुपात के अनुसार घटते क्रम में व्यवस्थित कीजिए तथा नीचे दिए गए कूट से सही उत्तर चुनिए ।

1. मण्डला
2. डिंडोरी
3. अलिराजपुर
4. बालाघाट

कूट :

(A) 1, 2, 3, 4

(B) 4, 3, 1, 2

(C) 2, 1, 4, 3

(D) 3, 4, 2, 1

41. भारतीय खेल प्राधिकरण की स्थापना किस वर्ष में की गई ?

(A) 1976

(B) 1981

(C) 1984

(D) 1991

42. मध्यप्रदेश सरकार द्वारा 'लाड़ली लक्ष्मी योजना' कब प्रारम्भ की गई ?

(A) 1 अप्रैल 2006

(B) 1 अप्रैल 2007

(C) 1 अप्रैल 2008

(D) 1 जुलाई 2006

43. मध्यप्रदेश में मुख्यमंत्री महिला सशक्तिकरण योजना कब आरम्भ हुई ?

(A) अप्रैल 2012

(B) जुलाई 2012

(C) सितम्बर 2013

(D) नवम्बर 2013

37. What is the level of Panchayati Raj System in Madhya Pradesh ?

(A) Two tier

(B) Three tier

(C) Four tier

(D) None of these

38. The scheme One Stop Center (Sakhi) is related with

(A) Providing facilities to women victims of violence

(B) Providing ration

(C) Self employment

(D) Skill and training

39. The lowest population density district of Madhya Pradesh is

(A) Jhabua

(B) Mandla

(C) Dindori

(D) Sidhi

40. Arrange the following district of Madhya Pradesh in descending order of sex ratio and select the correct answer from below codes.

1. Mandla
2. Dindori
3. Alirajpur
4. Balaghat

Codes :

(A) 1, 2, 3, 4

(B) 4, 3, 1, 2

(C) 2, 1, 4, 3

(D) 3, 4, 2, 1

41. In which year the Sports Authority of India was established ?

(A) 1976

(B) 1981

(C) 1984

(D) 1991

42. When was the 'Ladli Lakshmi Yojna' started by the Government of Madhya Pradesh ?

(A) 1 April 2006

(B) 1 April 2007

(C) 1 April 2008

(D) 1 July 2006

43. When was the Chief Minister's Women Empowerment Scheme started in Madhya Pradesh ?

(A) April 2012

(B) July 2012

(C) September 2013

(D) November 2013

44. मध्यप्रदेश के वर्तमान राज्यपाल श्री मंगुभाई छ. पटेल ने किस तिथि से पदभार संभाला है ?

(A) 03 जुलाई 2021

(B) 13 जुलाई 2021

(C) 08 जुलाई 2021

(D) 28 जुलाई 2021

45. ज्योतिर्लिंग ममलेश्वर किस प्रसिद्ध स्थान में स्थित है ?

(A) मन्दसौर

(B) ओंकारेश्वर

(C) कपिल धारा

(D) उज्जैन

46. मुख्यमंत्री कृषक उद्यमी योजना कब प्रारंभ की गई ?

(A) वर्ष 2016 – 2017

(B) वर्ष 2017 – 2018

(C) वर्ष 2018 – 2019

(D) वर्ष 2019 – 2020

47. मध्यप्रदेश में वर्ष 2005 – 06 में कृषि जोत को औसत आकार है

(A) 1.28 हेक्टेयर

(B) 2.22 हेक्टेयर

(C) 1.8 हेक्टेयर

(D) 2.25 हेक्टेयर

48. ''बैनगंगा'' नहर से मध्यप्रदेश के किस जिले में सिंचाई की जाती है ?

(A) जबलपुर

(B) मण्डला

(C) सीधी

(D) बालाघाट

49. सॉइल हेल्थकार्ड संबंधित है

(A) संतुलित उर्वरक के उपयोग

(B) अधिक पैदावार

(C) मिट्टी का परीक्षण

(D) उपरोक्त सभी

50. मध्यप्रदेश का सबसे कम महिला साक्षरता दर वाला जिला है

(A) झाबुआ

(B) अलिराजपुर

(C) श्योपुर

(D) बड़वानी

44. From which date the present Governor of Madhya Pradesh Shri Mangu Bhai Ch. Patel has taken over ?

(A) 03 July 2021

(B) 13 July 2021

(C) 08 July 2021

(D) 28 July 2021

45. In which famous place Jyotirling Mamleshvar is situated ?

(A) Mandsour

(B) Omkareshvar

(C) Kapil Dhara

(D) Ujjain

46. When was Chief Minister Krishak Udhyami Yojana launched ?

(A) Year 2016 – 2017

(B) Year 2017 – 2018

(C) Year 2018 – 2019

(D) Year 2019 – 2020

47. In a year 2005 – 06, average size of agricultural holding in Madhya Pradesh is

(A) 1.28 Hectare

(B) 2.22 Hectare

(C) 1.8 Hectare

(D) 2.25 Hectare

48. Which district irrigated by "BenGanga" Canal in Madhya Pradesh ?

(A) Jabalpur

(B) Mandla

(C) Sidhi

(D) Balaghat

49. Soil Health Card is related with

(A) Use of balanced fertilizer

(B) High yields

(C) Soil test

(D) All of the above

50. Lowest female literacy rate district in Madhya Pradesh is

(A) Jhabua

(B) Alirajpur

(C) Sheopur

(D) Barwani

खंड – ब / SECTION – B

51. The front suspension system that uses leaf spring and an 'I-beam' front axle is usually found on

(A) Racing cars

(B) Passenger cars

(C) Trucks

(D) Tractors

52. Positive camber tends to make front wheels

(A) Toe-in

(B) Toe-out

(C) Have neutral camber

(D) All of the above

53. The process of getting rid of any air trapped in hydraulic brake lines or component is called

(A) fishing

(B) blowby

(C) bleeding

(D) leaking

54. The steering knuckle is attached to upper and lower control arm by the

(A) Kingpin

(B) Upper and lower ball joints

(C) Stabilizer bar

(D) Spindle

55. The purpose of caster angle in an automobile is to

(A) Prevent tire wear

(B) Bring the road contact of tire under point of load

(C) Maintain direction control and stability

(D) Compensate for wear in steering linkage

56. When the driver of a car opens the side windshield and extend right arm and rotate it in anticlockwise direction, what he is trying to convey to vehicle behind ?

(A) He is turning to right

(B) He is slowing down

(C) He is giving permission for overtaking

(D) He is intending to pull in or turn to left

57. The methodology for crack detection in crankshaft is

(A) ultrasonic testing

(B) magnetic particle testing

(C) radiography

(D) visual inspection

58. The device that is used for checking the engine and vehicle components in actual operating conditions is

(A) tachometer

(B) oscilloscope

(C) chassis dynamometer

(D) engine analyzer

59. A steady but low vacuum reading with engine idling indicate that engine

(A) is losing power

(B) has a stuck valve

(C) exhaust pipe is plugged

(D) none of the above

60. The ABS warning light in vehicles will remain in the 'on' condition from the starting of engine till the vehicle reaches a speed of

(A) 20 km/h

(B) 18 km/h

(C) 7 km/h

(D) None of the above

61. Three Way Catalytic converter (TWC) is mainly used for reduction of _____ emissions.

(A) Soot, Smoke and PM

(B) HC, CO and NO_x

(C) HC, CO and CO_2

(D) All of the above

62. HYTHANE is used as a transportation fuel which is a blend of

(A) Hydrogen and LNG

(B) Hydrogen and LPG

(C) Hydrogen and CNG

(D) Hydrogen and Biogas

63. Which of the following is significant emission released from hydrogen fuelled SI engines ?

(A) SO_x

(B) HC

(C) NO_x

(D) CO

64. Increase in HC emissions from IC engines is due to

(A) Oil burning during combustion

(B) Crevice volumes present

(C) Adsorption-desorption of fuel in the thicket oil film on cylinder walls

(D) All of the above

65. As per BS-VI emission norms, for regular grade gasoline, the permissible minimum Research Octane Number (RON) is

(A) 81

(B) 85

(C) 91

(D) 95

66. The inlet and exhaust valves used in engine is

(A) Mushroom shaped poppet type

(B) Rectangular shaped poppet type

(C) Triangular shaped poppet type

(D) None of the above

67. The main drawback of which cycle is its impracticability due to high pressure and high volume ratios employed with comparatively low mean effective pressure

(A) Otto cycle

(B) Carnot cycle

(C) Ericsson cycle

(D) None of the above

68. In a supercharged engine, induction air

(A) is supplied at higher density

(B) mixed with fuel

(C) performs better scavenging

(D) none of the above

69. For the same indicated work per cycle, mean speed and permissible fluctuation of speed, what is the size of flywheel required for a multi-cylinder engine in comparison to a single-cylinder engine ?

(A) Bigger

(B) Smaller

(C) Same

(D) Depends on thermal efficiency of the engine

70. The efficiency of an Otto cycle is 60% and $\gamma = 1.5$. What is the compression ratio ?

(A) 7.25

(B) 6.25

(C) 4.25

(D) 8.25

71. Magnitude of Rolling Resistance mainly depends upon
(A) Weight of vehicle
(B) Type of Tire viz Pneumatic or Solid rubber type
(C) Nature of road surface
(D) All of the above

72. Air resistance depends upon
(A) Shape and size of vehicle body
(B) Air velocity
(C) Speed of vehicle
(D) All of the above

73. When the carriage unit rolls about its transverse axis i.e. along the width of the vehicle, it is known as
(A) Pitching
(B) Bouncing
(C) Rolling
(D) Yawing

74. When a moving vehicle encounters a sudden bump or pit on the road surface, it is subjected to vertical vibrations. This movement of vehicle is known as
(A) Pitching
(B) Bouncing
(C) Brake dip and squat
(D) Rolling

75. The vertical component of the resultant force caused by the pressure distribution of air flow on the moving vehicle body is called as
(A) Aerodynamic lift
(B) Aerodynamic drag
(C) Side force
(D) Rolling resistance

76. In 'V' type engine the included angle between two cylinders is
(A) 45°
(B) 60°
(C) 120°
(D) 90°

77. The volume above the piston in the combustion chamber is, when the piston is at T.D.C.
(A) Clearance volume
(B) Cylinder volume
(C) Exhaust volume
(D) None of these

78. At the same maximum pressure and temperature
(A) Diesel cycle is more efficient than otto cycle
(B) Otto cycle is more efficient than diesel cycle
(C) Both Otto cycle and Diesel cycle are equally efficient
(D) None of these

79. The ratio of brake power to indicated power of an IC engine is called
(A) Mechanical Efficiency
(B) Thermal Efficiency
(C) Volumetric Efficiency
(D) Relative Efficiency

80. Compression ratio is the ratio of
(A) total cylinder volume to clearance volume
(B) total cylinder volume to swept volume
(C) clearance volume to swept volume
(D) None of the above

81. Overdrive is provided in the transmission of a vehicle to
(A) Reach higher road speed
(B) Improved fuel consumption
(C) Better acceleration
(D) Carry more load

82. The frame may get distorted to a parallelogram shape due to
(A) Weight of the vehicle
(B) Weight of the passengers
(C) Cornering force
(D) Wheel impact with road obstacles

83. Free wheel unit is also known as
(A) Over running clutch
(B) Dry clutch
(C) Wet clutch
(D) Friction clutch

84. The difference between cut in speed and cut out speed of over drive is called as
(A) Over drive speed
(B) Average speed
(C) Hysteresis
(D) Cut out speed

85. In synchromesh gear box two involved adjacent gears have their speeds
(A) Increased
(B) Reduced
(C) Equalized
(D) Unequal

86. The process of combustion in engine generally takes place either in a homogeneous or heterogeneous fuel vapour air mixture depends on
(A) Type of engine
(B) Type of coolant
(C) Type of ignition
(D) All of the above

87. In a homogeneous mixture with an equivalence ratio ϕ is close to

(A) 2.0

(B) 1.5

(C) 1.0

(D) 1.8

88. If the equivalence ratio ϕ is less than one, the fuel-air mixture is called

(A) Chemically correct

(B) Lean

(C) Rich

(D) All of the above

89. In which stage of combustion in SI engine, the slope of pressure versus crank angle turned is maximum ?

(A) Ignition lag phase

(B) Flame propagation stage

(C) After burning stage

(D) None of the above

90. The increase of flame speed due to turbulence reduces the

(A) Combustion duration

(B) Tendency of abnormal combustion

(C) Both (A) and (B)

(D) None of the above

91. A _____ is an electro-mechanical device used to indicate the direction (left or right) towards which the vehicle is to take a turn.

(A) Rear view mirrors

(B) Trafficator

(C) Vehicle tracking system

(D) Head lamps

92. Mechanic A says the odometer reports the total miles or kilometers the car has traveled. Mechanic B says the speedometer reports the miles or kilometers per hour the car is travelling. Who is right ?

(A) Mechanic A

(B) Mechanic B

(C) Both (A) and (B)

(D) Neither (A) nor (B)

93. Spark timing control the _____ timing if the engine is retarded during idle and low-speed operation when the air-fuel mixture is rich.

(A) Combustion

(B) Exhaust

(C) Ignition

(D) Mixing

94. Reducing the spark advance for a set engine speed reduces the power and _____ the fuel consumption.

(A) Increases

(B) Decreases

(C) Constant

(D) None of the above

95. A _____ control system can work independently to control ignition and fuel metering systems.

(A) Open-loop

(B) Closed-loop

(C) Both combined

(D) None of the above

96. The side force on the vehicle is formed by

(A) The symmetric flow of air around the vehicle body

(B) The high speed flow of air coming from the front of the vehicle

(C) The asymmetric flow of air around the vehicle body

(D) All of these

97. If a vehicle is moving with a uniform velocity on a circular road, the inertia force will act

(A) Radially outwards from the C.G. of vehicle

(B) Radially inwards from the C.G. of vehicle

(C) Vertically upwards from the C.G. of vehicle

(D) Vertically downwards from the C.G. of vehicle

98. A curved highway with a radius of 200 m is designed to accommodate cars travelling at a speed of 120 kmph. If the coefficient of friction between the tire and the road is 0.6, then the angle of banking for curved highway should be

(A) 20°

(B) 27°

(C) 29.52°

(D) 23.47°

99. Sprung weight of vehicle is

(A) Weight of passenger carriage

(B) Weight of wheel axle system

(C) Weight of engine compartment

(D) Weight of chassis only

100. In telescopic dampers, shocks coming to the vehicle from road surfaces are eventually absorbed by

(A) Coil spring of suspension system

(B) Piston of telescopic damper

(C) Fluid (oil) inside the damper

(D) None of these

101. The color used for indicating the service guidances in traffic signals is

(A) blue

(B) white

(C) black

(D) fluorescent yellow

102. The area of body work in an automobile that are designed to collapse in the event of collision is called

(A) A-pillar

(B) B-pillar

(C) Bull bar

(D) Crumple zone

103. The following sensors are part of SRS system.

(A) Crash sensor, safing sensor

(B) Crash sensor, proximity sensor

(C) Safing sensor, proximity sensor

(D) None of the above

104. The gas that inflate airbag is

(A) helium

(B) nitrogen

(C) argon

(D) none of the above

105. The legal age to get licence for driving transport vehicles in India is

(A) 18

(B) 19

(C) 20

(D) None of the above

106. Willan's line method is used to find the frictional power of

(A) SI Engine

(B) CI Engine

(C) Any IC Engine

(D) None of these

107. If the displacement capacity of engine is doubled, what will happen to the MEP of the engine ?

(A) MEP also doubled

(B) MEP would remain same

(C) MEP will be reduced

(D) MEP will be increased

108. The power absorbed by the hydraulic dynamometer varies about

(A) Cube of rotational speed

(B) Fifth power of rotor diameter

(C) Both (A) and (B)

(D) None of these

109. In an eddy current dynamometer the eddy currents are induced in

(A) Stator

(B) Rotor

(C) Shaft

(D) Friction bearing

110. The drag cup type automobile speedometer works on the principle of

(A) Variable resistance

(B) Eddy currents

(C) Variable density

(D) Variable current

111. The consequences of abnormal combustion is (are)

(A) Loss of power

(B) Recurring preignition

(C) Mechanical damage to the engine

(D) All of the above

112. In the CI engines, the knocking occurs near the

(A) End of the combustion

(B) Beginning of the combustion

(C) Neither end nor beginning of the combustion

(D) Mid of the combustion

113. The fuel is forced into the cylinder by means of compressed air in the

(A) solid injection system

(B) air injection system

(C) individual pump system

(D) all of the above

114. The solid injection system is also called

(A) Airless mechanical injection

(B) Air injection

(C) Compression fuel injection

(D) None of the above

115. The main advantage of which nozzle is better cold starting performance ?

(A) Single hole nozzle

(B) Multi-hole nozzle

(C) Pintaus nozzle

(D) None of the above

116. Which of the following exhaust emission is higher from compression ignition engines ?

(A) CO and CO_2

(B) Oxides of nitrogen

(C) Unburnt hydrocarbons

(D) Particulate matter

117. Exhaust Gas Recirculation (EGR) method is mainly used for reduction of

(A) CO and HC emissions

(B) CO emission

(C) HC emission

(D) NO_x emission

118. Charcoal canister is also called as

(A) Vapour canister

(B) Fuel canister

(C) Carbon canister

(D) None

119. Chemiluminescence technique is mainly used for measuring

(A) NO_x emissions

(B) CO emissions

(C) CO_2 emissions

(D) Smoke intensity

120. Which of the following statement is false while Alcohols are being used as alternate fuels in IC engines ?

(A) Alcohols contain about half the heat energy of gasoline/litre

(B) Anti-knock characteristics of alcohols is poor

(C) Alcohols are corrosive in nature

(D) Alcohols do not vapourise as easily as gasoline

121. In an engine performance test set-up, the exhaust gas calorimeter is used for

(A) Measuring the calorific value of the fuel

(B) Measure the heat carried away by exhaust gases

(C) Measure the calorific value of the exhaust gases

(D) Measure the temperature of the exhaust gases

122. The leakage of Air-fuel mixture past the piston and piston rings from the combustion chamber to the crank case is known as

(A) Dilution losses

(B) Exhaust losses

(C) Blowby losses

(D) Incomplete combustion losses

123. Which of the following is used for the measurement of variation in the pressure in the combustion chamber in IC engines ?

(A) Strain gauge transducer

(B) U tube manometer

(C) Piezo-electric transducers

(D) Bourdon tube pressure transducers

124. If the air bubbles are formed before or inside the flow meter, then the indicated flow is

(A) lower than actual

(B) higher than actual

(C) not affected

(D) can't be measured

125. Flame ionization detector is used for tracing the

(A) CO in the exhaust

(B) HC in the exhaust

(C) CO_2 in the exhaust

(D) NO_x in the exhaust

126. With centre-point steering

(A) The centre of tyre contact meets the road surface at the same spot as the centre line of the kingpin

(B) The vehicle centre of turn is on a line that passes the centre of gravity of vehicle

(C) The steering gear box is in the centre of vehicle

(D) No kingpin inclination or camber angle is required

127. High steering ratios are often called

(A) Quick steering

(B) Slow steering

(C) Steady state steering

(D) Locked steering

128. How many types of hydraulic brake fluids are used in automobile as recommended by DOT ?

(A) Two

(B) Three

(C) Five

(D) Six

129. In a car with front disk and rear drum brakes, the front brakes grab when light pedal force is applied. This problem could be caused by a defective
(A) Proportionating valve
(B) Pressure differential valve
(C) Metering valve
(D) Check valve

130. The number of height sensors in air suspension system is
(A) Three
(B) Two
(C) Four
(D) Five

131. As the temperature is increased, the viscosity of oils
(A) Increases
(B) Decreases
(C) Remains unchanged
(D) None of the above

132. If an oil is cooled, it will start solidifying at some temperature, this is known as
(A) Cloud point
(B) Pour point
(C) Fire point
(D) Specific gravity

133. A measure of acidic or alkaline contents of oil is called
(A) Oxidation
(B) Oiliness
(C) Neutralisation number
(D) None of the above

134. The condition where minute bubbles of air held in the oil is described by
(A) Extreme pressure additives
(B) Stability
(C) Corrosiveness
(D) Foaming

135. Which is the common system for oil classification ?
(A) SAE (Society of Automotive Engineers)
(B) API (American Petroleum Institute)
(C) ISO (International Organisation for Standardization)
(D) All of the above

136. On a top-terminal battery, the negative terminal post is
(A) Smaller than the positive terminal post
(B) Larger than the positive terminal post
(C) The same size as the positive terminal post
(D) None of the above

137. In the electronic ignition system, the circuit between the battery and ignition-coil primary winding is closed and opened by
(A) Contact point
(B) A field relay
(C) A switch
(D) An ECU (Electronic Control Unit)

138. In some electronic ignition system, spark advance is produced by
(A) Sensors in the fuel system
(B) A mechanical centrifugal vacuum advance unit
(C) An electronic device
(D) The higher voltage of the system

139. The electronic spark control used on some turbocharged engines
(A) Retards the spark if detonation begins
(B) Takes the place of mechanical advance mechanisms
(C) Advances the spark to suit operating conditions
(D) Reduces spark voltage if detonation begins

140. Engine overheating can be due to
(A) Low battery
(B) Early ignition timing
(C) Late ignition timing
(D) Low engine speed

141. The free wheel mechanism transmits
(A) A planetary gear
(B) A transmission gear
(C) Power in one direction only
(D) A propeller shaft

142. The rear end suspension arrangement in which rear end torque is absorbed by the spring is called the
(A) Torque tube drive
(B) Hooks drive
(C) Differential drive
(D) Hotchkiss drive

143. Gear box provides required leverage between the engine and
(A) Steering
(B) Differential
(C) Road wheels
(D) Brake

144. In order for power to flow through the fluid coupling from engine to car wheels, the driving member must be turning
(A) Slower than driven member
(B) At same speed as driven member
(C) Faster than driven member
(D) None of the above

145. In diaphragm spring clutch on pressing down clutch pedal contact lost with pressure plate, clutch plate and

(A) Fly wheel

(B) Diaphragm

(C) Friction disc

(D) Gear box

146. Which grade is based solely on viscosity and does **not** bear any relationship to oil quality ?

(A) SAE

(B) API

(C) ISO

(D) None of the above

147. Which lubrication system used to lubricate connecting rod bearings ?

(A) Mist lubrication system

(B) Full pressure system

(C) Splash system

(D) None of the above

148. In oil filtering system that only filters a small parts of the oil passing through the system

(A) Four types of filteration

(B) Full-flow filtering system

(C) Types of oil pumps

(D) Bypass flow filter system

149. An oil filtering system that filters all the oil passing through the system

(A) Bypass flow filter system

(B) Full flow filter system

(C) Oil grading system

(D) Wet sump lubrication system

150. The size of abrasive particles to be removed by oil filter is about

(A) 10 to 15 microns

(B) More than 20 microns

(C) 5 to 8 microns

(D) None of the above

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