(IT)

पुरितका सं./ Booklet No. :

परीक्षा प्रश्न-पुस्तिका/EXAMINATION QUESTION BOOKLET

परीक्षा पुरिवका शृंखला / Test Booklet Series : 🗛

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विधारित समय : 3 घंटे (दृष्टियाधित उप्मोदयारों के लिए : 4 घंटे)	अधिकतम् अंक : 12(
Time Allowed: 3 Hours (For V.H. Candidates: 4 Hours)	Maximum Marks : 120
रील नं,	उत्तरशीट सं.:
Roll No. :	Answer Sheet No. ;

प्रश्नों के उत्तर देने से पहले निम्नलिखित अनुदेशों को ध्यान से पढ़ लें, इस पुस्तिका में प्रश्न अंग्रेजी में दिए गए हैं। Read the following instructions carefully before you begin to answer the questions. This booklet contains questions in English,

उम्मीदवारों के लिए अनुदेश Instructions to the Candidates

- 1. प्रश्नों के उत्तर देने से पहले आप इस पुस्तिका की जाँच करके देख लें िक इसमें पूरे पृष्ठ (1-16) हैं तथा कोई पृष्ठ था उसका भाग कम या दुखरा तो गईं। आ गया है। उम्मीदिवारों को यह भी आँच करनी है िक उनकी केवल उस स्ट्रीम की परीक्षा-पुस्तिका मिली हैं जिसके लिए उन्होंने अग्वेदन किया है अर्थात केप्यूटर साईस / इंजीनियरिंग भाग या सूचना प्रौडोशिकी भाग या इलेक्ट्रॉनिक्स और अम्युनिकेशन / टेलीकम्यूनिकेशन भाग या भौतिकी / इलेक्ट्रॉनिक्स / एप्लाइड उलेक्ट्रॉनिक्स भाग। यदि आप इस पुस्तिका में कोई त्रुटि पाएं, तो तत्काल इसके बदले दुसरी पुस्तिका ले लें।
- 2. निरीक्षक द्वारा आपको ओ एम् आर उत्तर-शीट अलग से दी जाएगी। ओ एम् आर उत्तर-शीट में विवरण भरने से पहले, आपको ओ एम् आर उत्तर शीट पर मुद्रिल अनुदेशों को सावधानीपूर्वक पढ़ना चाहिए। आपको ओ एम् आर उत्तर-पुस्तिका में विए गए अनुदेशों के अनुसार सावधानी पूर्वक उसमें विवरण और कोड लिखने चाहिए। प्रश्नों के उत्तर वास्तविक रूप में लिखना आरंभ करने से पहले आपको ओ एम् आर उत्तर-पुरितका में निर्भारित स्थान पर अपने हस्ताक्षर करने चाहिए। इन अनुदेशों का पूर्ण अनुपालन किया जाना चाहिए, ऐसा न किये जाने पर आपको ओ एम् आर उत्तर-शीट का मूल्यंकन नहीं किया जायेगा। (द्राण्डितन उप्मीदवारों के लिए यह विवरण लेखक द्वारा भरे जायेंगे। फिर भी, सभी द्राण्डितन उप्मीदवारों को ओ एम् आर उत्तर-शीट में निर्भारित स्थान पर अपने वाएं हाथ के अंपूठे व्यानिशान अवश्य लगाना चाहिए। इसके अतिरिक्त, जो दृष्टिहीन उप्मीदवार अपना हस्ताक्षर कर सकते हैं, वे अंपूठे के निशान के अलावा अपने हस्ताक्षर भी करें।)
- उस प्रशन-पुस्तिका में 120 बहुविकल्पीय प्रश्न हैं, प्रत्येक प्रश्न के 4 विकल्प दिए गए हैं (A), (B), (C) और (D) प्रत्येक प्रश्न का केवल एक विकल्प ही सही उत्तर है। यदि आपको एक से अधिक विकल्प सही लगें तो सबसे अधिक उचित विकल्प का चुनाव करें और उत्तर पुरिवक्ता में प्रश्न के सामने बाले उपयुक्त गोले को काला करें।
- 4. प्रत्येक सही उत्तर के लिए । अंक दिया जाएगा, मलत देने पर 0.25 अंक काट लिया जाएगा।
- 5. अम्मीदवार को दोनों भाग अनिवायं रूप में हल करने हैं।
- 6. मोले को काला करने के लिए केवल काले/नोले चॉल प्वाइंट पेन का प्रयोग करें। मोले को एक बार काला करने के बाद इसको मिटाने या बदलने की अनुमति नहीं हैं। यदि किसी प्रश्न के सामने एक से ज्यादा मोले काले किये गए हों तो मशीन द्वारा उसके लिए शून्य अंक दिया जाएगा।
- किसी भी स्थिति में उत्तर शीट को न मोडें।
- 8. कोई रफ कार्य उत्तर-पुस्तिका पर नहीं करना है। रफ कार्य के लिए इस पुस्तिका भें स्थान दिया गया है।
- 9. परीक्षा हॉल/कमरों में मोबाइल फ़ोन तथा बेतार संचार साधन पूरी तरह निषिद्ध हैं, उम्मोदवारों को उनके अपने हिंत में सलाह दी जाती है कि मोबाइल फ़ोन/किसी अन्य बेतार संचार साधन को स्विच ऑफ करके भी अपने पास न रखें। इस प्रावधान का अनुपालन न करने को परीक्षा में अनुचित उपायों का प्रयोग माना जायेगा और उनके विरुद्ध कार्यवाही की जाएगी, जिसमें उनकी उम्मोदवारी रह करना भी ग्रापिल है।
- 10. परीक्षाणी की अपनी उत्तर-पुस्तिका सीट निरीक्षक को सींपे विना और उपरिशति पश्चिम पर हस्ताक्षर किये बिना परीक्षा हॉल/कमरा नहीं छोड़ना चाहिए, ऐसा नहीं करने पर अबोस्य घोषित कर दिया जाएगा।

- 1. Before you start to answer the questions you must check up this booklet and ensure that it contains all the pages (1-16) and see that no page or portion thereof is missing or repeated. Candidates are also required to check that they have got the right question book strictly from the stream candidate has applied for i.e. Computer Science / Engineering Part OR Information Technology Part OR Electronics and Communication / Telecommunication Part OR Physics / Electronics / Applied Electronics Part. If you find any defect in this Booklet, you must get it replaced immediately.
- 2. You will be supplied the OMR Answer-Sheet separately by the Invigilator. Read the instructions printed on OMR Answersheet carefully before filling the information on the OMR Answer-sheet. You must complete and code the details as per the instructions given in the OMR answer sheet carefully. You must also put your signature on the OMR Answer-Sheet at the prescribed place before you actually start answering the questions. These instructions must be fully complied with, failing which, your Answer-Sheet will not be evaluated. (For V.H. candidates these details will be filled in by the scribe. However, all V.H. candidates must put their left-hand thumb impression at the space provided in the OMR Answer-Sheet. In addition, those V.H. candidates who can sign should also put their signatures in addition to thumb impression.)
- 3. This booklet consists of 120 Multiple choice questions. Each question has 4 (four) alternatives (A), (B), (C), and (D). In any case only one alternative will be the correct answer. In case if you find more than one correct answer, then choose the most appropriate single option and darken the appropriate circle in the answer sheet in front of the related question.
- For each correct answer One mark will be given and for each incorrect answer 0.25 marks will be deducted.
- 5. Candidate has to attempt both parts compulsorily.
- 6. Use Black/Blue ball point Pen to darken the circle Answer once darkened is not allowed to be crased or altered. Against any question if more than one circle is darkened, machine will allot zero mark for that question.
- 7. Do not fold answer sheet in any case.
- No rough work is to be done on the Answer Sheet. Space for rough work has been provided in this booklet.
- 9. Mobile phones and wireless communication devices are completely banned in the examination half/rooms. Candidates are advised not to keep mobile phones/any other wireless communication devices with them even switching it off, in their own interest. Failing to comply with this provision will be considered as using unfair means in the examination and action will be taken against them including cancellation of their candidature.
- 10. Candidate should not leave the examination hall/room without handing over his/her Answer sheet to the invigilator and without signing on the attendance sheet. Failing in doing so, will amount to disqualification.

जब तक आप से कहा न जाए तब तक प्रश्न-पुस्तिका न खोलें

DO NOT OPEN THE QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.

उम्मीदवार का नाम/Name of Candidate :	उम्मीदबार के हस्ताक्षर/Signature of Candidate



SEAL

SECTION - A

General Aptitude

Choose the most appropriate option.

Direction Q.No. 1 - 2:

In the following questions choose the word opposite in meaning to the given word.

- 1. Antagonism:
 - (A) Cordiality
- (B) Animosity
- (C) Hostility
- (D) Enmity
- 2. Hasten:
 - (A) Dash
- (B) Dawdle
- (C) Hurry
- (D) Scurry

Direction Q.No. 3 - 4:

In the following questions, out of the four alternatives, choose the one which best expresses the meaning of the given word.

- 3. Camouflage:
 - (A) Disguise
- (B) Cover
- (C) Demonstrate
- (D) Fabric
- 4. Yearn:
 - (A) Deny
- (B) Accept
- (C) Confront

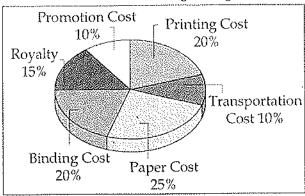
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(D) Crave

Direction 5 - 8:

The following pie-chart shows the percentage distribution of the expenditure incurred in publishing a magazine. Study the pie-chart and answer the questions based on it.

Various Expenditures (in percentage) Incurred in Publishing a Magazine



- 5. What is the central angle of the sector corresponding to the expenditure incurred on Royalty?
 - (A) 15°
- (B) 24°
- (C) 54°
- (D) 48°
- 6. The price of the magazine is marked 20% above the C.P. If the marked price of the magazine is ₹ 180, then what is the cost of the paper used in a single copy of the magazine?
 - (A) ₹36
- (B) ₹37.50
- (C) ₹42
- (D) ₹44.25
- 7. If for a certain quantity of magazine, the publisher has to pay ₹ 30,600 as printing cost, then what will be amount of royalty to be paid for these magazines?
 - (A) ₹19,450
- (B) ₹21,200
- (C) ₹22,950
- (D) ₹26,150

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SPACE FOR ROUGH WORK

SC-B (IT)

- 8. Royalty on the magazine is less than the printing cost by:
 - (A) 5%
- (B) $33\frac{1}{5}\%$
- (C) = 20%
- (D) 25%

Direction 9 - 11:

The table given here shows production of five types of cars by a company in the year 2010 to 2015. Study the table and answer the questions.

Production of Cars by a Company

Year/ Type	2010	2011	2012	2013	2014	2015	Total
Р	8	20	16	17	21	6	88
Q	16	10	14	12	12	14	78
R	21	17	16	15	13	8	90
S	4	6	10	16	20	31	87
T	25	18	19	30	14	27	133
Total	74	71	75	90	80	86	476

- 9. In which year the total production of cars of types P and Q together was equal to the total production of cars of types R and S together?
 - (A) 2011
 - (B) 2012
 - (C) = 2015
 - (D) None of the above
- 10. In which year the production of cars of all types taken together was approximately equal to average during the period?
 - (A) 2010
- (B) 2012
- (C) 2014
- (D) 2015

- 11. The production of which type of cars was 25% of the total production of all types of cars during 2014?
 - (A) S
- (B) R
- (C) Q
- (D) P

Direction Q.No. 12 - 14:

Read the following information carefully and answer the questions given below:

- (i) P, Q, R, S, T and U six members of a family, each of them engaged in a different profession Doctor, Lawyer, Teacher, Engineer, Nurse and Manager.
- (ii) Each of them remains at home on a different day of the week from Monday to Saturday.
- (iii) The lawyer in the family remain at home on Thursday.
- (iv) R remains at home on Tuesday.
- (v) P, a Doctor, does not remain at home either on Saturday or on Wednesday.
- (vi) S is neither the doctor nor the Teacher and remains at home on Friday.
- (vii) Q is the Engineer and T is the Manager.
- 12. Which of the following combinations is correct?
 - (A) Lawyer Tuesday
 - (B) Nurse Friday
 - (C) Manager Friday
 - (D) Engineer Thursday
- 13. Which of the following combinations is **not** correct?
 - (A) R Teacher
- (B) Q Engineer
- (C) T Manager
- (D) S Lawyer

- 14. Who is the Nurse?
 - (A) S
- (B) R
- (C) U
- (D) Data inadequate

Direction Q.No. 15:

Three of the words will be in the same classification, the remaining one will not be. Your answer will be the one word that does NOT belong in the same classification as the others.

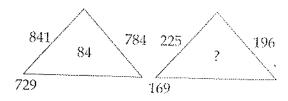
- 15. Which word does NOT belong to the others?
 - (A) Tape
- (B) Twine
- (C) Cord
- (D) Yarn

Direction Q.No. 16 - 18:

Study the following information's carefully and answer the questions given below:

- (i) Six persons A, B, C, D, E and F are taking their breakfast in two groups facing one another.
- (ii) D and A are not in the same row.
- (iii) E is to the left of F and faces C.
- (iv) B is in the middle of a group.
- (v) D is to the left of B.
- 16. Who faces B?
 - (A) C
- (B) A
- (C) E
- (D) F
- 17. Who of the following are sitting in the same row?
 - (A) AEB
- (B) EFB
- (C) DEF
- (D) AEF

- **18.** Which of the following pairs are facing each other?
 - (A) CA
- (B) BA
- (C) DA
- (D) DE
- 19. Find the missing number in the following question.



- (A) = 32
- (B) 42
- (C) 62
- (D) 82
- 20. If \div means +, means \div , \times means and + means \times , then

$$\frac{(3 \times 4) - 8 \times 4}{4 + 8 \times 2 + 16 \div 1} = ?$$

- (A) 1
- (B) -1
- (C) 2
- (D) 0

Direction Q.No. 21 - 22:

In each of the following letter series, some of the letters are missing which are given in that order as one of the alternatives below it. Choose the correct alternative.

- 21. aaa_bb_ aab_baaa_bb
 - (A) abab
- (B) bbaa
- (C) babb
- (D) baab
- 22. abca_bcaab_aa_caa_c
 - (A) bbac
- (B) bbaa
- (C) acbb
- (D) acac

Direction Q.No. 23 - 24 :

In each of the following questions, one term in the number series is wrong. Find out the wrong term.

- 23. 125, 126, 124, 127, 123, 129
 - (A) = 123
- (B) 124
- (C) 126
- (D) 129
- 24. 52, 51, 48, 43, 34, 27, 16
 - (A) = 51
- (B) 48
- (C) = 34
- (D) 43

Direction Q.No. 25 - 27:

In each of the following questions, a series is given with one term missing. Choose the correct alternative that will continue the same pattern and fill in the blank space.

- **25.** 6, 25, _____, 123, 214, 341.
 - (A) 65
- (B) 70
- (C) 72
- (D) 62
- **26.** 71, 76, 69, 74, 67, 72, _____
 - (A) 65
- (B) 76
- (C) = 77
- (D) 80
- **27**. 50, 49, 46, 41, 34, ____
 - (A) 32
- (B) 25
- (C) 21
- (D) 19

Direction Q.No. 28 - 29:

In each of the following questions, find out the correct answer from the given alternatives.

- **28.** If in a certain language MECHANICS is coded as HCEMASCIN, how is POSTER coded in that code?
 - (A) OPTSRE
- (B) SOPRET
- (C) RETSOP
- (D) TERPOS
- **29.** If TABLE is coded as GZYOV, how is JUICE coded?
 - (A) OZLFJ
- (B) QFRXV
- (C) HOFAD
- (D) QZHMT

Direction Q.No. 30 - 32:

In each of the following questions, there is a certain relation between two given words on one side of: and one word is given on another side of: while another word is to be found from the given alternatives, having the same relation with this word as the words of the given pair bear. Choose the best alternative.

- **30.** Engineer: Map:: Bricklayer:?
 - (A) Design
- (B) Templet
- (C) Mould
- (D) Cement
- **31.** Major: Battalion: Colonel: ?
 - (A) Company
- (B) Regiment
- (C) Army
- (D) Soldiers
- 32. Virology: Virus: : Semantics:?
 - (A) Amoeba
- (B) Language
- (C) Nature
- (D) Society

Direction Q.No. 33 - 35:

The following questions consist of two words each that have a certain relationship to each other, followed by four lettered pairs of words. Select the lettered pair that has the same relationship as the original pair of words.

- 33. Symphony: Music
 - (A) Mural: Painting
 - (B) Ode: Prose
 - (C) Preface: Book
 - (D) Editorial: Journal
- 34. Medicine: Capsule
 - (A) Pearl: Shell
 - (B) Passenger: Bus
 - (C) Heart: Lungs
 - (D) Car: Vehicle
- 35. Identity: Anonymity
 - (A) Flow: Perfection
 - (B) Careless: Mistake
 - (C) Truth: Lie
 - (D) Fear: Joy

Direction Q.No. 36 - 37:

Each of the following questions the first two words have definite relationship. Choose one word out of the given four alternatives which will fill in the blank space and show the same relationship with the third word as between the first two.

- **36.** Cobra is related to Snake in the same way as Leopard is related to ______.
 - (A) Tiger
- (B) Lion
- (C) Cat
- (D) Zebra

37. Memorise is to Amnesia as Movement is to

A · 2.

- (A) Lubrication
- (B) Lethargy
- (C) Paralysis
- (D) Hermit

Direction Q.No. 38 - 41:

In each of the following questions, three out of four alternatives contain alphabet placed in a particular form. Find the one that does not belong to the group.

- 38. (A) BCDEI
- (B) PQRSW
- (C) LMNOS
- (D) HIKLO
- 39. (A) LNMO
- (B) CRDT
- (C) EUFV
- (D) GWHX
- 40. (A) CBAZ
- (B) AZYX
- (C) AZBY
- (D) PONM
- **41**. (A) JMP
- (B) RUX
- (C) UYB
- (D) EHK
- 42. A train started from Mumbai at 6.00 A.M. On the next (second) station 1/3 passengers got down and 96 got in. On the next (third) station, ½ of the total passengers present in the train, got down and 12 came in. Now there were 248 passengers in the train, when the train started from Mumbai, the number of passengers was:
 - (A) 435
- (B) 564
- (C) 654
- (D) 736

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SPACE FOR ROUGH WORK

SC-B (IT)

- 43. The LCM of two numbers is 45 times their HCF. If the sum of the LCM and the HCF of these two numbers is 1150 and one of the numbers is 125, then the other number is:
 - (A) 256
- (B) 225
- (C) 250
- (D) 255

Direction Q.No. 44 - 45:

Find out the wrong term from the following series and select the number from the alternatives which will replace the wrong term in the series.

- **44**. 299, 178, 97, 48, 24, 14, 13:
 - (A) 175
- (B) 295
- (C) 23
- (D) 10
- 45. 2, 9, 28, 65, 126, 216, 344:
 - (A) 38
- (B) 217
- (C) 356
- (D) 66
- 46. The ratio between Sumit's and Prakash's age at present is 2:3. Sumit is 6 years younger than Prakash. The ratio of Sumit's age to Prakash's age after six years will be:
 - (A) 1:2
- (B) 2:3
- (C) 3:4
- (D) 3:8
- 47. If the difference between a number and 1/5th of it is 84, what is the number?
 - (A) 115
- (B) 95
- (C) 105
- (D) 125

- 48. The ratio of ages of the father and his son at present is 12:5, the difference of their age is 28 years. What will be the ratio of their Ages after eight years?
 - (A) 2:2
- (B) 3:1
- (C) 2:1
- (D) 3:2
- 49. Two pipes A and B can fill a water tank in 20 and 24 minutes respectively and third pipe C can empty at the rate of 3 gallons per minute. If A, B and C opened together filled the tank in 15 minutes, the capacity (in gallons) of the tank is:
 - (A) 60
- (B) 120
- (C) 150
- (D) 180
- 50. A can run 200 m in 35 seconds and B in 38 seconds. By what distance A beats B?
 - (A) 15 m
- (B) $15\frac{2}{3}$ m
- (C) $15\frac{15}{19}$ m
- (D) $15\frac{4}{19}$ m
- 51. A train starts at 7 a.m. from A towards B with a speed of 50 km/hr. Another train from B starts at 8 a.m. with a speed of 60 km/hr towards A. Both of them meet at 10 a.m. at C. The ratio of the distances AC to BC is:
 - (A) 4:5
- (B) 5:4
- (C) 5:6
- (D) 6:5

- 52. The average of the husband and his wife was 23 years at the time of their marriage. After five years they have a one year old child. The average age of the family now is:
 - (A) 29.3 years
- (B) 28.5 years
- (C) 23 years
- (D) 19 years
- 53. 1/4th of 60% of a number is equal to 2/5th of 20% of another number. What is the respective ratio of the first number to that of second number?
 - (A) 8:15
- (B) 5:9
- (C) 8:13
- (D) 4:7
- 54. A&B together have ₹ 1210. If 4/15 of A's amount is equal to 2/5 of B's amount, how much amount does B have?
 - (A) ₹664
- (B) ₹550
- (C) ₹484
- (D) ₹ 460
- 55. How many one rupee coins, 50 paise coins and 25 paise coins of which the numbers are proportional to 4, 5 and 6 are together worth ₹ 32?
 - (A) 16, 20, 24
- (B) 12, 16, 20
- (C) 20, 24, 28
- (D) 24, 28, 32
- 56. Two dice are thrown simultaneously. The probability of obtaining a total score of 5 is:
 - (A) 1/18
- (B) 1/12
- (C) 1/9
- (D) None of these

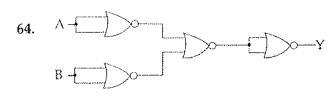
- 57. A tradesman marks his goods at such a price that after allowing a discount of 15%, he earns a profit of 20%. Find the marked price of an article which costs him ₹850.
 - (A) ₹1200
- (B) ₹1300
- (C) ₹1250
- (D) ₹1350
- 58. In a camp, there are meals for 120 men or 200 children. If 150 children have taken their meals, how many men will be catered to with the remaining meal?
 - (A) = 50
- (B) -40
- (C) 30
- (D) 20
- 59. 56 men can complete a piece of work in 24 days. In how many days can 42 men complete the same piece of work?
 - (A) 48
- (B) 32
- (C) 20
- (D) 16
- 60. A boat travels upstream from P to Q and downstream from Q to P in 4 hours. If the speed of the boat in still water is 12 km/hr and the speed of the current is 4 km/hr, then what is the distance from P to Q?
 - (A) $31\frac{1}{3} \text{ km}$
- (B) $41\frac{1}{3}$ km
- (C) $21\frac{1}{3}$ km
 - (D) $11\frac{1}{3} \text{ km}$

SECTION - B

INFORMATION TECHNOLOGY

Choose the most appropriate option.

- 61. Given a class named student, which of the following is a valid constructor declaration for the class?
 - (A) Student student () { }
 - (B) Private final student()()
 - (C) Student (student s) { }
 - (D) Void student () { }
- 62. Three or more devices share a link in ____ connection.
 - (A) Unipoint
- (B) Polarpoint
- (C) Point to Point
- (D) Multipoint
- 63. An object can have which of the following multiplicities?
 - (A) Zero
 - (B) More than one
 - (C) One
 - (D) All of the above



The Circuit is equivalent to:

- (A) EX-OR Gate
- (B) NAND Gate
- (C) OR Gate
- (D) AND Gate

- 65. Two alternative packages A and B are available for processing a database having 10k records. Package A requires 0.0001n2 time units and package B requires 10nlog10n time units to process n records. What is the smallest value of k for which package B will be preferred over A?
 - (A) 12
- (B) 10
- (C) 6
- (D) 5
- 66. Earlier name of Java Programming language was:
 - (A) OAK
- (B) D
- (C) Netbean
- (D) Eclipse
- 67. What is the type of the algorithm used in solving the 4 Queens problem?
 - (A) Greedy
 - (B) Branch and Bound
 - (C) Dynamic
 - (D) Backtracking
- **68.** Selection sort, quick sort is a stable sorting method.
 - (A) True, True
- (B) False, False
- (C) True, False
- (D) False, True
- **69.** Which of the following is a platform free language?
 - (A) JAVA
- (B) C
- (C) Assembly
- (D) Fortran

- The maximum combined length of the 70. command-line arguments including the spaces between adjacent arguments is:
 - 128 characters (A)
 - 256 characters (B)
 - (C)67 characters
 - It may vary from one operating (D) system to another
- What is the meaning of following 71. declaration?

int(*p[7])();

- (A) p is pointer to function.
- p is pointer to such function which (B) return type is array.
- p is array of pointer to function. (C)
- p is pointer to array of function. (D)
- Which of the following sorting procedures 72. is the slowest?
 - (A) Quick Sort
- Merge Sort (B)
- (C) Shell Sort
- **Bubble Sort** (D)
- The number of unused pointers in a 73. complete binary tree of depth 5 is:
 - (A) 4
- (B) 8
- (C) 16
- (D) 32

Normalization form which is based on 74. transitive dependency is classified as:

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- first normal form
- second normal form
- fourth normal form (C)
- third normal form (D)
- A _____ is a linear list in which 75. insertions and deletions are made to from either end of the structure.
 - (A) Circular queue
 - (B) Priority queue
 - (C)Stack
 - (D) Dequeue
- The recurrence relation capturing the 76. optimal execution time of the Towers of Hanoi problem with n discs is:

(A)
$$T(n) = 2T(n-2) + 2$$

(B)
$$T(n) = 2T(n/2) + 1$$

(C)
$$T(n) = 2T(n-1) + n$$

(D)
$$T(n) = 2T(n-1) + 1$$

Which of the following is the correct order 77. of evaluation for the below expression?

$$z = x + y * z / 4 \% 2 - 1$$

(A)
$$*/\% + - =$$
 (B) $= */\% + -$

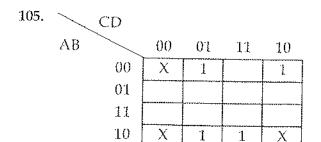
(B) =
$$*/\% + -$$

(C)
$$/*\% - + =$$
 (D) $*\%/ - + =$

78.		nich of the follow: gration in relations	ing is	a fundamental	82.	Blt	ietooth is an exa	mple of	:	
	(A)		Set intersection) - local area net	work		
	, ,					(B)	virtual privat	virtual private network		
	(B) Assignment				(C)	personal area	personal area network			
	(C)	Natural join				(D)	none of the n	nentione	ed above	
	(D)	None of the abo	ove							
<i>7</i> 9.	Wh	ich protocol find	s the	MAC address	83.	Which of the following is not ar device?				
	froi	n IP address?				(A)	Mouse	(B)	Keyboard ·	
	(A)	SMTP	(B)	ICMP		(C)	Light Pen	(D)	VDU	
	(C)	ARP	(D)	RARP						
					84.	An	operation can b	e describ	bed as :	
80.	By which technology do we separate our					(A)	Object behavi	or		
		ness logic from the presentation logic?				(B)	Functions			
	(A)	Servlet				(C)	Class behavio	r		
	(B)	JSP	4 4				(A), (B)			
	(C)	Both (A) & (B)								
	(D)	None of the abo	ve		85.	The keyword used to tran			sfer control from ling function is:	
81.	Cons	Consider the set $S = \{1, \omega, \omega^2\}$, where ω and					switch	(B)	go to	
	ω ² a mul	² are cube roots of unity. If * denotes the nultiplication operation, the structure 5, *) forms:				(C)	go back	(D)	return	
	(A)	A group			86.	Two	eigen values o	f a 3×3	real matrix F	
	(B)	A ring				are $(2+\sqrt{-1})$ and 3. The determinants		terminant of I		
	(C)	An integral dom	ain			(A)	0	(B)	1	
*	(D)	A field		Ş		(C)	15	(D)	~ <u>I</u>	
A/Pa	age 11	······		SPACE FOR RO	OUGE	I WO	RK		SC-B (IT)	
									(",	

A/P	age 12			SPACE FOR R	OUGH	I WOI	RK SC-B ((IT)		
	(C)	Link	(D)	Protocol		(D)	None of the Above	*******************************		
	(A)	Rule	(B)	Medium		(C)	Don't Care			
		nunication:	0			(B)	0			
91.	A s	et of rules th	ıat g	overns data		(A)	1			
	(C)	List (D)	None	e of above	95.		nt will be the final output of D Flip-F e input string is 0010011100 ?	lop,		
	(A)	Queue (B)	Stack	ς		(C)	7 (D) 6			
90.		it data structure is ersal of a graph?	s used	for depth first		(A)	9 (B) 8			
	(D) Recent Application Development. What data structure is used for depth first					Both prints of a letter can also be colour with the same colour. What is to minimum value of k that satisfies the requirement?				
(C) Relative Application				Development.		one	of k colours, such that the colour-p I to colour any two letters are differ	airs		
	(B)	Rapid Applicati	on De	sign.		Eng	English letter is drawn two times. She wants to paint each of these 52 prints with			
	(A)	Rapid Applicati	on De	velopment.	94.	, Mali	. Mala has a colouring book in which ϵ			
89.	RAE	Software proces	s mod	el stands for :		(D)	None of the Above			
						(C)	More than two inputs			
	(C)	2^{20}	(D)	2^{25}		(B)	3			
	(A)	210	(B)	2^{15}		(A)	2			
88.		nt is the possible ions on a set of 5			93.		w many Inputs are required in der Circuit ?	Full		
	(C)	O (m + n)	(D)	O (n)		(D)	All mentioned above			
	(A)	O (mn)	(B)	O (m)		(B) (C)	Project estimation Scope management			
	m ec	iges if the edges a	ire sor	ted is:		(A)	Project planning			
87.	find	aplexity of Krus ling minimum s irected graph con	panni	ing tree of an	92.	a nu	ware project management comprise umber of activities, which contains			

96.	The primary key is selected from the:				101.	Which type of Statement can execute parameterized queries?			
	(A)	Composite keys.					-		
	(B)	Determinants.				(A)	PreparedStatement		
	(C)	Candidate keys.				(B)	ParameterizedStatement		
	(D)	Foreign keys.				(C)	ParameterizedStatement and CallableStatement		
97.	addr	/ many address I ress each memory I nory chip ?	ines a ocatio	are needed to on in a 2048×4	102.	(D)	All kinds of Statements ne traversal we process all		
	(A)	10	(B)	11	102.	of a	vertex's descendants before we move		
	(C)	8	(D)	12		to at	n adjacent vertex.		
						(A)	Depth First		
98.	Wha	it are the character	ristics	of software?		(B)	Breadth First		
	(A) Software is developed or engineered;					(C)	Width First		
		it is not manufac sense.	tured	in the classical		(D)	Depth Limited		
	(B)	Software can b custom build.	e cu	stom built or	103.		ich of the following is a fundamental		
	(C)	Software doesn't	t" we	ar out "		oper	ration in relational algebra?		
	(D)	All mentioned a	bove			(A)	Set intersection		
				•		(B)	Natural join		
99.	MIN	AD stands for :				(C)	Assignment		
	(A)	Multiple Instruc	tion I	Multiple Data		(D)	None of the above		
	(B)	Multiple Instruc	tion N	Memory Data					
	(C)	Memory Instruc	tion l	vlultiple Data	104.	Wh	ich-one of the following statements		
	(D)	Multiple Inform	ation	Memory Data		abo	ut normal forms is FALSE?		
			,			(A)	BCNF is stricter than 3 NF		
100.	of a	unctional depender ttributes A and B t f database is classi	then s	et of attributes		(B)	Lossless, dependency - preserving decomposition into BCNF is always possible		
	(A)	top right side				(C)	Lossless, dependency - preserving		
	(B)	down left side			-		decomposition into 3 NF is always possible		
	(C)	left hand side				(D)	Any relation with two attributes is		
	(D)	right hand side				(12)	BCNF		
$\overline{A/F}$	age 1	3		SPACE FOR F	ROUG	H WC	ORK SC-B (IT)		



What will be the equation of simplification of the given K-Map?

- (A) A B' + B' C D' + A' B' C'
- (8) A'B' + A'B'D' + A'B'C'
- (C) B' D' + A B' + B' C'
- (D) B' D' + A' B' C' + A B'
- 106. Object oriented inheritance models:
 - (A) "is a kind of" relationship
 - (B) "has a" relationship
 - (C) "want to be" relationship
 - (D) "contains" of relationship.
- 107. The ______ is the physical path over which a message travels.
 - (A) Path
- (B) Protocol
- (C) Route
- (D) Medium
- 108. The Banker's algorithm is used:
 - (A) to rectify deadlock
 - (B) to prevent deadlock
 - (C) to detect deadlock
 - (D) to detect and solve deadlock

- 109. Application layer protocol defines:
 - (A) types of messages exchanged
 - (B) rules for when and how processes send and respond to messages

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- (C) message format, syntax and semantics
- (D) all of above
- 110. Which of the following statements about semaphores is true?
 - (A) P and V operations should be indivisible operations
 - (B) A semaphore implementation should guarantee that threads do not suffer indefinite postponement
 - (C) If several threads attempt a P(S) operation simultaneously, only one thread should be allowed to proceed.
 - (D) All of the above
- 111. Copying a process from memory to disk to allow space for other processes is called:
 - (A) Swapping
 - (B) Demand Paging
 - (C) Deadlock
 - (D) Page Fault
- 112. Find the odd one out.
 - (A) Merge Sort
 - (B) TVSP Problem
 - (C) Knapsack Problem
 - (D) OBST Problem

113.	What	is 2's	comp	lement	of ·	$(101)_3$?
------	------	--------	------	--------	------	-----------	---

- $(A) = (010)_3$
- (B) $(011)_3$
- $(C) = (121)_3$
- (D) (121)₂

114. Which of this is not a network edge device?

- (A) PC
- (B) Server
- (C) Smartphone
- (D) Switch

115. The example of implied addressing is:

- (A) Stack addressing
- (B) Indirect addressing
- (C) Immediate addressing
- (D) None of the above

116. The degree of Multiprogramming is controlled by:

- (A) CPU Scheduler
- (B) Long-term Scheduler
- (C) Context Switching
- (D) Medium term Scheduler
- 117. If attribute of relation schema R is member of some candidate key then this type of attributes are classified as:
 - (A) atomic attribute
 - (B) candidate attribute
 - (C) nonprime attribute
 - (D) prime attribute

- 118. How many Addition and Subtraction are required if you perform multiplication of 5 (Multiplicand) and -30 (Multiplier) using Booth Algorithm?
 - (A) = 2, 1
- (B) 1, 2
- (C) = 1, 1
- (D) 2, 2

119. The Decimal equivalent of the Hexadecimal number (AC7B)16 is:

- (A) 32564
- (B) 44155
- (C) 50215
- (D) 43562

120. How will you free the allocated memory?

- (A) remove(var-name)
- (B) free(var-name)
- (C) delete(var-name)
- (D) dalloc(var-name)

- o 0 o -