

07/2020
Asst-Engg. (Civil)

27/AE/C/M-2022-3

Booklet Series

Candidate's Roll Number

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A

Serial No.

103602

Question Booklet

Paper—III

GENERAL STUDIES

(Objective)

Time Allowed : 1 Hour

Maximum Marks : 100

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS

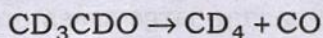
1. This Question Booklet contains 50 questions in all.
2. All questions carry equal marks.
3. Attempt all questions.
4. Immediately after commencement of the examination, you should check up your Question Booklet and ensure that the Question Booklet Series is printed on the top right-hand corner of the Booklet and the Booklet contains 8 printed pages and no page or question is missing or unprinted or torn or repeated. If you find any defect in this Booklet, get it replaced immediately by a complete Booklet of the same series.
5. You must write your Roll Number in the space provided on the top of this page. Do not write anything else on the Question Booklet.
6. An Answer Sheet will be supplied to you separately by the Invigilator to mark the answers. You must write your Name, Roll No. and other particulars on the first page of the Answer Sheet provided, failing which your Answer Sheet will not be evaluated.
7. You will encode your Roll Number and the Question Booklet Series A, B, C or D as it is printed on the top right-hand corner of this Question Booklet with Black/Blue ballpoint pen in the space provided on Page-2 of your Answer Sheet. If you do not encode or fail to encode the correct series of your Question Booklet, your Answer Sheet will not be evaluated correctly.
8. Questions and their responses are printed in English only in this Booklet. Each question comprises four responses—(A), (B), (C) and (D). You are to select ONLY ONE correct response and mark in your Answer Sheet. In case you feel that there are more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each question. Your total marks will depend on the number of correct responses marked by you in the Answer Sheet.
9. In the Answer Sheet, there are four brackets—(A), (B), (C) and (D) against each question. To answer the questions you are to mark with Black/Blue ballpoint pen ONLY ONE bracket of your choice for each question. Select one response for each question in the Question Booklet and mark in the Answer Sheet. If you mark more than one answer for one question, the answer will be treated as wrong. Any erasure or change is not allowed.
10. You should not remove or tear off any sheet from the Question Booklet. You are not allowed to take this Question Booklet and the Answer Sheet out of the Examination Hall during the examination. After the examination has concluded, you must hand over your Answer Sheet to the Invigilator. Thereafter, you are permitted to take away the Question Booklet with you.
11. Failure to comply with any of the above instructions will render you liable to such action or penalty as the Commission may decide at their discretion.

SEAL

1. Rainbow is formed in the sky by the physical phenomenon of
- (A) reflection—dispersion
 - (B) reflection—dispersion—refraction
 - (C) total internal reflection—dispersion—refraction
 - (D) total internal reflection—interference
2. Technically the thickness of stable metal coating on another metal should be of the order of
- (A) nanometer
 - (B) micrometer
 - (C) millimeter
 - (D) centimeter
3. Most of the engineering tools and machines are made up of steel because of their
- (A) high elasticity
 - (B) heavy weight
 - (C) easy availability and cheapness
 - (D) more durability
4. Heat is conducted in solids by
- (A) photons
 - (B) phonons
 - (C) protons
 - (D) electrons
5. Technically metals get expansions due to heat in dimensions because of the energies of
- (A) photons
 - (B) phonons
 - (C) heat
 - (D) electrons
6. Detergents clean cloths in washing machine because water solution has
- (A) low density
 - (B) low temperature
 - (C) low surface tension
 - (D) low weight
7. Trees pull water from deep ground according to the property of
- (A) wood nature
 - (B) mineral water
 - (C) capillary action
 - (D) photosynthesis
8. In the state of our tiredness we either sit down or sleep flat for the sake of the
- (A) body relaxation
 - (B) body center of gravity
 - (C) body low gravity potential
 - (D) body low temperature

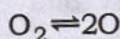
9. We have two eyes because of the perception of the objects in the dimension of
- (A) length
 - (B) height
 - (C) depth
 - (D) area
10. Over the palms and fingers, we have line grooves for the
- (A) palmistry
 - (B) future prediction
 - (C) gripping power
 - (D) static friction
11. In information technology (IT), most secret messages are sent by
- (A) amplitude modulation
 - (B) frequency modulation
 - (C) phase modulation
 - (D) phase-frequency modulation
12. The moon sky is dark compared to blue sky of the earth because
- (A) moon is smaller in size
 - (B) moon shines bright
 - (C) moon is the satellite of the earth
 - (D) moon has less escape velocity
13. Black hole eats all stars because
- (A) it has small mass and small size
 - (B) it has large mass and small size
 - (C) it has small mass and large size
 - (D) it has large mass and large size
14. Satellites are
- (A) free-falling objects under gravity
 - (B) man-made objects in the sky
 - (C) time- and fuel-less objects
 - (D) never geostationary objects
15. Superfast computation is done through
- (A) unitary bits
 - (B) binary bits
 - (C) ternary bits
 - (D) Q-bits
16. In reasonable hydrogen-oxygen chain reaction
- $$\text{H}_2 + \text{O}_2 \rightarrow \text{HO}_2 + \text{H}$$
- $$\text{H}_2 + \text{HO}_2 \rightarrow \text{OH} + \text{H}_2\text{O}$$
- $$\text{OH} + \text{H}_2 \rightarrow \text{H}_2\text{O} + \text{H}$$
- $$\text{O}_2 + \text{H} \rightarrow \text{OH} + \text{O}$$
- $$\text{H}_2 + \text{O} \rightarrow \text{OH} + \text{H}$$
- which are chain branching propagators?
- (A) OH, O
 - (B) OH, H
 - (C) O, H
 - (D) OH, H, O

17. When we heat the mixture of CH_3CHO and CD_3CDO , we get



but radical mechanism indicates that we should obtain

- (A) CH_2D_2
(B) CD_2H_2
(C) CH_3D
(D) CH_3D_2
18. Sucrose concentration C_0 decreases with time and with rate constant k as
- (A) $C = -C_0 kt$
(B) $C = -C_0 kt^2$
(C) $C = C_0 \log kt$
(D) $C = C_0 e^{-kt}$
19. The equilibrium constant of dissociation reaction of oxygen

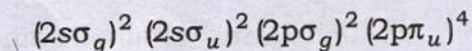


at temperature 1000 K is obtained to be



- (A) 1.4×10^{-37}
(B) 3.3×10^{-20}
(C) 2.5×10^{-10}
(D) 5.2×10^{-7}

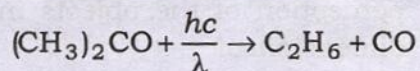
20. The given molecular orbital configuration of diatomic molecule



stands for

- (A) O_2
(B) N_2
(C) CO
(D) OH

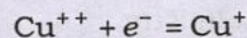
21. Photolysis of acetone



needs photon of wavelength (λ)

- (A) 3300 Å
(B) 3130 Å
(C) 2950 Å
(D) 2200 Å

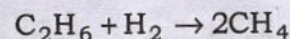
22. In acid solution, the electrode reaction



has electrode standard potential

- (A) 0.153 V
(B) 0.306 V
(C) 0.459 V
(D) 0.612 V

23. Cracking reaction




heats up at

- (A) 15540 cal
(B) 41745 cal
(C) 40110 cal
(D) 30213 cal

24. A chemical reaction is 20% complete in 15 min at 40 °C and in 3 min at 60 °C, then how much activation energy is required?

- (A) 12.4 kcal
(B) 14.4 kcal
(C) 16.4 kcal
(D) 18.4 kcal

25. The conductivity of a saturated AgCl solution is higher in H₂O at 20 °C by $1.26 \times 10^{-6} \text{ ohm}^{-1} \text{ cm}^{-1}$ than for the water used. Now the solubility of AgCl in H₂O is
- (A) $13.6 \times 10^{-6} \text{ moles liter}^{-1}$
(B) $9.14 \times 10^{-6} \text{ moles liter}^{-1}$
(C) $6.28 \times 10^{-6} \text{ moles liter}^{-1}$
(D) $4.21 \times 10^{-6} \text{ moles liter}^{-1}$
26. Ctrl, Shift and Alt keys are
- (A) modifiers
(B) functions
(C) alphanumeric
(D) adjustments
27. A computer cannot 'boot' unless it has
- (A) compiler 
(B) loader
(C) operating system
(D) assembler
28. Junk e-mail is also known as
- (A) spam
(B) spoof
(C) sniffer script
(D) spool
29. Several computers linked to a server to share programs and storage space are called
- (A) network
(B) grouping
(C) library
(D) integrated
30. Which software program is used to view Web pages?
- (A) Site
(B) Host
(C) Link
(D) Browser
31. USB is which type of storage device?
- (A) Tertiary
(B) Secondary
(C) Primary
(D) Auxiliary
32. In MICR, C stands for
- (A) Code
(B) Colour
(C) Computer
(D) Character

42. The number of awards received by the films, *Gully Boy* (Filmfare) and *Parasite* (Oscar) were respectively
(A) 13 and 2
(B) 13 and 4
(C) 13 and 6
(D) 13 and 8
43. Safer Internet Day is celebrated on
(A) 7th February
(B) 9th February
(C) 10th February
(D) 11th February
44. On 25th February, 2020, the minister Sushil Modi submitted a budget of Bihar State which was in serial order of the list
(A) 9th
(B) 10th
(C) 11th
(D) 12th
45. In ISRO projet 'Chandrayaan-3', what is the name of 'half-humanoid' robot for artificial intelligence?
(A) Vyommitra
(B) Vyom-chitra
(C) Vyom-putra
(D) Vyom-pitra
46. What is the serial number of GSAT-30 of ISRO in the list of communication satellites?
(A) 40th
(B) 41st
(C) 42nd
(D) 43rd
47. According to climate monitoring agency 'Copernicus Climate Change Service', which year was the hottest year?
(A) 2016
(B) 2017
(C) 2018
(D) 2019
48. What is the name of the Oscar Award winner short Indian film?
(A) *Period-End of Sentence*
(B) *Piper*
(C) *Kamera*
(D) *India's Daughter*
49. Which of the following waterfalls is not on the river Narmada?
(A) Kapildhara
(B) Bhalkunda
(C) Dugdhdhara
(D) Bheraghat
50. Who is the author of *Tarikh-i-Firoz Shahi*?
(A) Shams-i Siraj Afif
(B) Ziauddin Barani
(C) Khwaja Abdus Samad Isami
(D) Shirajuddin Ali Yazdi

SPACE FOR ROUGH WORK



SEAL