

ALL KERALA BHAVAN'S
SCHOLARSHIP EXAMINATION 2019-20

STD: XII Science

Duration : 2 hrs
Max. Marks: 100

GENERAL INSTRUCTIONS

Read the instructions carefully before answering

1. Please fill up your Roll No. and class in the box provided on the answer sheet.
2. This question booklet contains 50 questions and 5 Tie Breaker questions. All questions including Tie Breaker Questions are mandatory. Tie Breaker questions would be evaluated only in case of a Tie.
3. All candidates have to attend questions 1 to 36 compulsorily
4. Remaining 14 questions have to be selected as per the candidate's subject options.
5. Each question carries 2 marks.
6. Each question has 4 answer choices a,b,c,d.
7. For each question, select the best/correct option and darken the bubble completely against the corresponding question in the answer sheet provided.
8. Use blue/black ball point pen to darken the bubble.
9. Darken only one bubble against each question.
10. There will be no negative marking.

BVM ELAMAKKARA

Choose the Correct answer from the options given.

1. 'Endymion- 'A Poetic Romance' is written by _____?
a) Shelley b) Keats c) Byron d) William Wordsworth
2. A person who is indifferent to pleasure and pain, is a _____.
a) Mercenary b) Precocious c) Stoic d) Fastidious
3. The idiom 'to be above board' means _____.
a) to have good height b) to have no doubts c) to try to be beautiful
d) to be honest in any business deal
4. Due to the exam tension, I had a sleepless night yesterday – Identify the poetic device of the underlined part.
a) Transferred Epithet b) Personification c) Synecdoche d) Oxymoron
5. Did anyone help you find your seat? – Identify the correct passive form.
a) Was he helped to find his seat?
b) Have you been helped to find your seat?
c) Are you helped by anyone to find your seat?
d) Were you helped to find your seat?
6. Choose the antonym of the underlined word. Her impetuous behaviour was attributed to her upbringing.
a) sluggish b) swift c) rash d) sensible
7. Adrienne Rich in her poem 'Aunt Jennifer's Tiger' discusses the theme of _____.
a) Feminism b) Marxism c) Imagism d) Romanticism
8. Half lives of two radioactive elements A and B are 20 minutes and 40 minutes respectively. Initially the samples have equal number of nuclei. After 80 minutes, the ratio of decayed numbers of A and B nuclei will be
a) 4:1 b) 1:4 c) 5:4 d) 1:16
9. Two wires of the same material have the same length but their cross-sectional areas are in the ratio 3:1. They are joined in series. The resistance of the thicker wire is 10Ω . The total resistance of the combination is
a) $\frac{5}{2}\Omega$ b) $\frac{40}{3}\Omega$ c) 100Ω d) 40Ω
10. An ammeter reads upto 1A. Its internal resistance is 0.81Ω . To increase the range to 10A, the value of the required shunt is:
a) 0.03Ω b) 0.3Ω c) 0.9Ω d) 0.09Ω
11. A sensitive magnetic instrument can be shielded very effectively from outside fields by placing it inside a box of
a) teak wood b) plastic material
c) soft iron of high permeability d) a metal of high conductivity

12. A plane electromagnetic wave of energy U is reflected from the surface. Then the momentum transferred by electromagnetic wave to the surface is
 a) zero b) U/c c) $2U/c$ d) $U/2c$
13. A capacitor is charged by a battery. The battery is removed and another identical uncharged capacitor is connected in parallel. The total electrostatic energy of resulting system.
 a) decreases by a factor of 2 b) remains the same
 c) increases by a factor of 2 d) increases by a factor of 4
14. Two coherent monochromatic light beams of intensities I and $4I$ are superposed. The maximum and minimum intensities in the resulting beams are
 a) $5I$ and I b) $9I$ and I c) $5I$ and $3I$ d) $9I$ and $3I$
15. Hardening of leather in tanning industry is based on
 a) electrophoresis b) electro osmosis c) mutual coagulation
 d) thermosetting
16. Chemical composition of 'slag' formed during the smelting process in the extraction of copper is
 a) $Cu_2O + FeS$ b) $FeSiO_3$ c) $CuFeS_2$ d) $Cu_2S + FeO$
17. Aniline is reacted with bromine water and the resulting product is treated with an aqueous solution of sodium nitrite in presence of dilute HCl . The compound so formed is converted into tetrafluoroborate which is subsequently heated dry. The final product is
 a) P- Bromofluorobenzene b) P- Bromoaniline
 c) 2,4,6 - tribromofluorobenzene d) 1,3,5 - tribromobenzene
18. The role of catalyst is to change
 a) Gibbs energy of the reaction b) Enthalpy of the reaction
 c) Activation energy of reaction d) Equilibrium constant
19. The compounds $[Co(SO_4)(NH_3)_5]Br$ and $[Co(SO_4)(NH_3)_5]Cl$ represent.
 a) Linkage isomerism b) Ionisation isomerism
 c) Coordination isomerism d) No isomerism
20. In a reaction $A+B \rightarrow$ Product, rate is doubled when the concentration of B is doubled and rate increases by a factor of 8 when the concentration of both the reactants (A and B) are doubled. Rate law for the reaction can be written as
 a) $rate = K[A][B]^2$ b) $rate = K[A]^2[B]^2$ c) $rate = K[A][B]$ d) $rate = K[A]^2[B]$
21. Compound 'A' molecular formula (C_3H_8O) is treated with acidified potassium dichromate to form a product 'B' (molecular formula C_3H_6O), 'B' forms a shining silver mirror on warming with ammoniacal Silver nitrate. 'B' when treated with an aqueous solution of $H_2NCONHNH_2$. HCl and Sodium acetate gives a product 'C'. Identify the structure of 'C'.
 a) $CH_3CH_2CH=NNHCONH_2$ b) $CH_3-\underset{\substack{| \\ CH_3}}{C} = NNHCONH_2$ c) $CH_3-\underset{\substack{| \\ CH_3}}{C} = NCONHNH_2$
 d) $CH_3CH_2CH = NCONHNH_2$

22. When was 'NITI AYOJ' constituted in India?
 a) Feb 2015 b) 1st Jan 2015 c) 1st Oct 2015 d) 1st Dec 2015
23. Robert Mogabe passed away at the age of 95 on September 6th, 2019. He served as the President of which nation for almost four decades.
 a) Ghana b) Libya c) Zimbabwe d) South Africa
24. Which Indian politician authored the book titled 'The New Delhi Constituency'.
 a) Shashi Tharoor b) Abhishek Manu Sanghvi c) Sanjay Nirupam
 d) Meenakshi Lekhi
25. As Howard Schultz is to Starbucks _____ is to Cafe Coffee Day.
 a) V.S. Sidhartha b) M.G. Sidhartha c) C. Varun Vardhan
 d) Mukesh Ambani
26. According to article 'X' of the Indian Constitution the state of 'Y' is confirmed with a special status similar to Kashmir. Identify 'X' and 'Y'.
 a) Mizoram, 371G b) Meghalaya, 379A
 c) Jammu, 345 A d) Nagaland, 371 A
27. What number should replace question mark.
- | | | |
|----|----|----|
| 47 | 55 | 63 |
| 85 | 92 | 99 |
| 73 | ? | 25 |
- a) 50 b) 45 c) 49 d) 48
28. Find the next term in the following series:
 APZLT, CQYNR, ERXPP, GSWRN, ITVTL
 a) KUUVJ b) KVUUJ c) JUVUR d) KVUVJ
29. A is B's sister, C is B's mother, D is C's father, E is D's mother. Then how is A related to D.
 a) grandfather b) grandmother c) daughter d) granddaughter
30. 20 people shake hands with each other. How many hand shakes will be there in total?
 a) 200 b) 190 c) 175 d) 180
31. A pipe can fill a tank in 6 hours and another pipe can empty the tank in 12 hours. If both the pipes are opened at the same time, the tank can be filled in
 a) 10 hours b) 12 hours c) 14 hours d) 16 hours

32. The cause of corruption in medical education is shortage of seats, and fewer doctors than required for the population and even fewer specialists. Which of the following can be inferred from the above?
- Students pay bribes to the management of institutions to avail seats.
 - The criteria to select students to fill medical seats are flexible
 - There is a set standard regarding the doctors to population ratio
 - Most of the doctors are general physicians
33. If highways were restricted to cars and only those trucks with capacity of less than 8 tons, most of the truck traffic would be forced to run outside highways. Such a reduction in the amount of truck traffic would reduce the risk of collisions on highways. The conclusion drawn in the first sequence depends on which of the following assumptions?
- the roads outside highways would be as convenient as highways for most drivers of trucks.
 - Most of the roads outside highways are not ready to handle truck traffic.
 - Most trucks that are currently running in highway have a capacity of more than 8 tons.
 - Cars are at greater risk of being involved in collisions than are trucks.
34. Which is a judgment, not a fact?
- That production of Hamlet was first – rate; you will never see it done better.
 - That production of Hamlet was first rate; it was cited as such in the Daily News.
 - That production of Hamlet was first rate; it won an award this year
 - That production of Hamlet was first rate; 94% audience members interviewed after the show agreed.
35. What is wrong with the following argument?
- “We should not change our grading systems to numbers instead of letters. The next thing you know, they will take away our names and refer to us by numbers, too!”
- There is nothing wrong with the argument
 - The conclusion is too extreme
 - Students should not have a say in the type of grading systems used in their schools.
 - It does not explain why they want to get rid of letter grades
36. In contrast to the earlier predictions, demand for sugarcane has not risen in recent years, yet, eventhough production amounts and price have also been stable during the last three years. Last year, sugarcane growers increased their profits by more than 10 percent over the previous year’s level.
- Any of the following statements, if true about last year, helps explain the rise in profit except:
- Many sugar factories that are large consumers of sugarcane increases their production of sugarcane – based ethanol, yet their overall consumption of sugarcane decreased.

6. $\int_{a+c}^{b+c} f(x)dx$ is equal to
 a) $\int_a^b f(x-c)dx$ b) $\int_a^b f(x+c)dx$ c) $\int_a^b f(x)dx$ d) $\int_{a-c}^{b-c} f(x)dx$
7. Three persons A, B and C, fire at a target in turn, starting with A. Their probability of hitting the target are 0.4, 0.3 and 0.2 respectively. The probability of two hits is
 a) 0.025 b) 0.188 c) 0.339 d) 0.475

Informatics practices

1. One of the many tiny dots that make up the display on the computer is known as
 a) point b) character c) element d) pixel
2. The output of the following code fragment is

```
for ( int j = 10; j > 5; j-- )
{
System.out.print(j + " ");
}
System.out.println();
```

 a) 10 11 12 13 14 15. b) 9 8 7 6 5 4 3 2 1 0.
 c) 10 9 8 7 6 5. d) 10 9 8 7 6.
3. The syntax for defining an abstract class is
 a) abstract {...}. b) public {...}.
 c) public abstract {...}. d) public implement {...}.
4. The constraint used to specify that a column must not assume the null value is
 a) DEFAULT Constraint b) NOT NULL Constraint
 c) UNIQUE Constraint d) DESCRIBE Constraint
5. The result of the query SELECT ROUND(16.789, 1) is
 a) 16.7 b) 16.9 c) 17 d) 16.8
6. Control statements that allow the program to choose different paths of execution is
 a) Iteration. b) Selection. c) Sequence. d) Looping.
7. The _____ method is used to extract specified number of characters from a string.
 a) substr() b) substring() c) takeString() d) extract()

Tie breaker

1. The contingency fund of the state is operated by
 a) PM b) Governor of the state c) CM d) President
2. Peter is on the East of Tom and Tom is in the North of John. Mike is on the south of John then in which direction of Peter is Mike?
 a) South - East b) South - West c) South d) North - East

3. Evidence shows that people who live in the Antarctic score higher on happiness surveys than those who live in Florida. Which is the best conclusion that can be drawn from this data?
- a) Floridians would be happier if they moved to the Antarctic.
 - b) People in colder climate are happier than those in warmer climates
 - c) These are only happy people in the Antarctic
 - d) Those in the Antarctic who scored high on a happiness survey probably like snow.
4. Indian economist and philosopher 'Amartya Sen' got Nobel Memorial Price in Economic Science in the year
- a) 1998 b) 1997 c) 1999 d) 1996
5. Who discovered Power Loom?
- a) Edmund Cartwright b) Robert Wilhelm Bunsen
 - c) Richard Trevithick d) Gaustav Robert Kirchhoff

Rough Work