

# PGDBA 2020 ANSWER KEY

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## VARC

Q.1. Each of the following four sentences has two words within brackets. The which has been highlighted has been used as the most appropriate word for the sentence. In one of the sentences, the wrong word has been highlighted. Identify that sentence and indicate that option as your answer .

- A. The regional rules had to (**profligate**/propitiate) the Kings and Emperors inorder to survive and prosper.
- B. Inculturation always runs the risk of (**syncretism**/symbolism), in all culturewithout exception.
- C. The family was destitute as its sole breadwinner was an(**inveterate**/invigorate) gambler.
- D. Classes where children from different economic backgrounds are (**integrated**/ingratiated) might be a good way of developing empathy in children.

**Correct Answer:- A**

Q.2. Arrange the sentences in the most logical order to form a coherent paragraph.From the given options choose the most appropriate option.

- A. Hillary Clinton famously used children as her signature cause when she wasfirst lady, publishing in 1996, when her public image was mired in scandal.
- B. "Think of the children!" has thus been a rallying cry for everyone from anti-nuclear activists to crusaders against gay marriage or abortion.
- C. Adults with wildy varying agendas have long used kids to serve their ownpolitical interests.
- D.As a political strategy, this makes some sense; whatever their politics, most adults are distressed when "children," as an amorphous group, appear to be introuble.

- (A)ADBC
- (B)BCDA
- (C)CBDA
- (D)CBAD

**Correct Answer:- C**

**Q.3. Each of the following four sentences has two words within brackets. The word which has been highlighted has been used as the most appropriate word for the sentence. In one of the sentences, the wrong word has been highlighted. Identify that sentence and indicate that option as your answer.**

- A. Long years of neglect had left the roof of the historic building in a (**precarious**/precautions) condition.**
- B. Letters of congratulation (**decanted**/descended) on the winning team likesnowflakes.**
- C. From a distance he could see the cow (**foraging**/foregoing) in the pasture at a distance from the herd.**
- D. The speaker was becoming more and more aggressive as the crowd (**goaded**/girded) him on .**

**Correct Answer:- B**

**Q.4. Arrange the sentences in the most logical order to form a coherent paragraph. From the given options choose the most appropriate option.**

- A. The process of state building has often seen the exploitation of environmental and natural resources.**
- B. They become low paid labour in, or destructive scavengers eking out a living from the remnants of, corporate forestry even as forest resources were being depleted.**
- C. In most of the countries in ASEAN, unbridled exploitation of forest resources occurred while civil society actors, mainly forest-based communities, were either marginalized or co-opted.**
- D. In the history of ASEAN countries, this process led not only to political and economic marginalization of many civil society sectors but also to the resource capture and ecological marginalization of forest resources.**

- (A) DBCA**
- (B) DCAB**
- (C) BADC**
- (D) ADCB**

**Correct Answer:- D**

**Q.5 Arrange the sentences in the most logical order to form a coherent paragraph. From the given options choose the most appropriate option.**

- A. More broadly, globalization is the process by which countries become more like one country.**
- B. Narrowly defined, globalization is global economic and financial integration.**
- C. In this latter depiction, economic and financial integration can only be seen as a step in a long process.**
- D. In its humane dimension , globalization is the gradual removal of all barriers and the integration of mankind**

- A. DBCA**
- B. DCAB**
- C. BADC**
- D. BDAC**

**Correct Answer:- C**

**Direction(6-10):The passage below is accompanied by a set of five questions. Choose the BEST answer to each question**

**The orientals and occidentals think in different ways is not mere prejudice. Many psychological studies conducted over the past two decades suggest Westerners have more individualistic, analytic and abstract mental life than do East Asians. Several hypotheses have been put forward to explain this.**

**One, that modernisation promotes individualism, falls at the first hurdle: Japan, an ultra - modern country whose people have retained a collective outlook. A second, that a higher prevalence of infectious diseases in a place makes contact with strangers more dangerous, and causes groups to turn inward, is hardly better.**

**Europe has had its share of plagues; probably more than either Japan or Korea. And though southern China is notoriously a source of infection (influenza pandemics often start there), this is not true of other parts of that enormous country.**

**That led Thomas Talhelm of the University of Virginia and his colleagues to look into a third suggestion: that the crucial difference is agricultural. The West's staple is wheat; the East's, rice. Before the mechanisation of agriculture a farmer who grew rice had to expend twice as many hours doing so as one who grew wheat. To deploy labour efficiently, especially at times of planting and harvesting, rice growing societies as far apart as**

India, Malaysia and Japan all developed co-operative labour exchanges which let neighbours stagger their farms' schedules in order to assist each other during these crucial periods. Since, until recently, almost everyone alive was a farmer, it is a reasonable hypothesis that such a collective outlook would dominate a society's culture and behaviour, and might prove so deep-rooted that even now, when most people earn their living in other ways, it helps to define their lives.

Mr. Talhelm realized that this idea is testable. Large swathes of China, particularly in the north, depend not on rice, but on wheat. That, as he explains in a paper in *Science*, let him and his team put some flesh on this theory's bones. The team gathered almost 1,200 volunteers from all over China and asked them questions to assess their individualism or collectivism. The answer bore little relation to the wealth of volunteer's place of origin, which Mr. Talhelm saw as a proxy for how modern it was, or to its level of public health. There was a striking correlation, though, with whether it was rice-growing or a wheat-growing area. This difference was marked even between people from neighbouring countries with different agricultural traditions. His hypothesis that the different psychologies of East and West are, at least in part, a consequence of their agriculture thus looks worth further exploration. And such exploration is possible - for India, too, has rice - growing and wheat - growing regions.

How resilient Asia's collectivist cultures will be as they lose their rural roots remains to be seen. But the message from Japan, and also from more recently modernized places such as Korea, Taiwan, Hong Kong and Singapore, seems to be "quite resilient". For some, Asian values - with their tenets of Solidarity and collective action - are cause for celebration. For others, they are stifling and a barrier to social progress. But whichever side you take, if Mr. Talhelm is correct they are only "Asian" because, back in the neolithic, farmers in many parts of that continent found *Oryza* a more congenial crop to grow than *Triticum*.

Q.6. In the context of the passage, the author's assertion that the notion that 'modernization promotes individualism, falls at the first hurdle' refers to the fact that :

- (A) Japan is a modern country despite its people having a collective outlook.
- (B) People in Japan have a collective outlook, and as a consequence it has become a modern nation.
- (C) People in Japan have a collective outlook despite the fact that it has become a modern nation.
- (D) Japan is a modern country and hence its people have a collective outlook.

**Correct Answer:- C**

**Q.7. In the context of the passage the hypothesis that a 'higher prevalence of infectious disease in a place makes contact with strangers more dangerous' and hence people more individualistic , would have been supported if :**

- (A) Only Europe, and not East Asia , had suffered from plagues and infectious diseases.**
- (B) Both East Asia and Europe had suffered from plagues and infectious diseases.**
- (C) Only East Asia, and not Europe, had suffered from plagues and infectious diseases.**
- (D) East Asia and Europe had not suffered from plagues and infectious diseases.**

**Correct Answer:- A**

**Q.8. Which of the following, if true, would invalidate the main argument of Thomas Talhelm and his colleagues that agricultural traditions are the cause of differences in thinking between East Asians and Europeans ?**

- (A) Wheat production in Europe was never mechanized.**
- (B) Rice rather than wheat was part of the daily diet of Europeans.**
- (C) Wheat production in Europe was mechanized .**
- (D) Rice rather than wheat was the main European crop.**

**Correct Answer:- B**

**Q.9. The author's assertion that Asia's collectivist cultures are 'quite resilient' is based partly on the fact that :**

- (A) Taiwan has a collectivist culture.**
- (B) Northern China has collectivist culture.**
- (C) India has a collectivist culture.**
- (D) Southern China has a collectivist culture.**

**Correct Answer:- A**

**Q.10. Based on the claims made by the passage, if Oryza had been cultivated in Europe and Triticum in Asia , then :**

- A. The Germans might have developed and retained a collectivist culture, but Germany may not have become a modern nation.**
- B. The French might have developed and retained an individualist culture, even after France became a modern nation.**
- C. The Chinese might have developed and retained an individualistic culture, but it may not have become a modern nation.**
- D. The Japanese might have developed an individualistic culture and retained it even after Japan became a modern nation**

**Correct Answer:- D**

**Direction(11-15):**The passage below is accompanied by a set of five questions. Choose the BEST answer to each question

For the film, what matters primarily is that the actor represents himself to the public before the camera, rather than representing someone else. One of the first to sense the actor's metamorphosis by this form of testing was Pirandello. Though his remarks on the subject in his novel *Si Gira* were limited to the negative aspects of the question and to the silent film only, this hardly impairs their validity. For in this respect, the sound film did not change anything essential. What matters is that the part is acted not for an audience but for a mechanical contrivance - in the case of the sound film, for two of them. "The film actor," wrote Pirandello, "feels as if in exile - exiled not only from the stage but also from himself. With a vague sense of discomfort voice, and the noises caused by his moving about, in order to be changed into a mute image, flickering an instant on the screen, then vanishing into silence ... The projector will pay with his shadow before the public, and he himself must be content to play before the camera". This situation might also be characterized as follows : for the first time - and this is the effect of the film - man has to operate with his whole living on the stage, emanates from Macbeth, cannot be separated for the spectators from that of the actor. However, the singularity of the shot in the studio is that the camera is substituted for the public. Consequently, the aura that envelops that actor vanishes, and with it the aura of the figure he portrays. It is not surprising that it should be a dramatist such as Pirandello who, in characterizing the film, inadvertently touches on the very crisis in which we see the theater. Any thorough study proves that there is indeed no greater contrast than that of the stage play to a work of art that is completely subject to or, like the film, founded in, mechanical reproduction. Experts have long recognized that in the film "the greatest effects are almost always obtained by 'acting' as little as possible..." In 1932 Rudolf Arnheim saw "the latest trend ... in treating the actor as a stage prop chosen for its characteristics and ... inserted at the proper place." With this idea something else is closely connected.

The stage actor identifies himself with the character of his role. The film actor very often is denied this opportunity. His creation is by no means all of a piece; it is composed of many separate performances. Besides certain fortuitous considerations, such as cost of studio, availability of fellow players, decor, etc., there are elementary necessities of equipment that split the actor's work into a series of mountable episodes. In particular, lighting and its installation require the presentation of an event that, on the screen, unfolds as a rapid and unified scene, in a sequence of separate shootings which may take hours at the studio; not to mention more obvious montage. Thus jump

from the window can be shot in the studio as a jump from a scaffold, and the ensuing flight, if need be, can be shot weeks later when outdoor scenes are taken. Far more paradoxical cases can be easily be construed. Let us assume that an actor is supposed to be startled by a knock at the door. If his reaction is not satisfactory, the director can resort to an expedient : when the actor happens to be at the studio again he has a shot fired behind him without his being forewarned of it. The frightened reaction can be shot now and be cut into the screen version. Nothing more strikingly shows that art has left the realm of the "beautiful semblance" which , so far ,had been taken to be the only sphere where art could thrive.

**Q.11. When the author says "that art left the realm of the ' beautiful semblance' which , so far, had been taken to be the only sphere where art could thrive," in the light of the entire passage, what is indicate ?**

- (A) Art is predominantly imitative.
- (B) Technology constrains artistic innovation.
- (C) Art loses its value with technology.
- (D) Technology enables artistic innovation

**Correct Answer:- D**

**Q.12. On ruminating on silent films, the author states that "man has to operate with his whole living person, yet forgoing its aura." We can decipher a transition from**

- (A) Theatre to Movies.
- (B) Art to Technology.
- (C) Personalities to Commodities.
- (D) Spirit to body.

**Correct Answer:- C**

**Q.13. The author says : "It is not surprising that it should be a dramatist such as Pirandello who, in characterizing the film, inadvertently touches on the very crisis in which we see the theatre." Why is it not surprising?**

- (A) Because as a dramatist he understood the impact of technology on the theatre.
- (B) Because as a dramatist he understood the power of technology.
- (C) Because as a dramatist he understood movie production technology.
- (D) Because as a dramatist he understood the impact of theatre on movies.

**Correct Answer:- A**

**Q.14. The passage through the following statements indicates a new trend in performance art. "Besides certain fortuitous considerations, such as cost of studio, availability of fellow players, decor, etc., there are elementary necessities of equipment that split the actor's work into a series of mountable episodes." Which of the following best reflects that trend?**

- (A) Decimation of traditional theatre.**
- (B) Anesthetizations of movie-making technology.**
- (C) Disassembling of artistic processes.**
- (D) Technologization of movie making.**

**Correct Answer:- C**

**Q.15. An appropriate title for the passage could be :**

- A. Death of theatre in the age of mechanical reproduction**
- B. Theatre, films and mechanical reproduction.**
- C. Art in the age of mechanical reproduction.**
- D. Rise of motion picture technology and the destruction of theatre.**

**Correct Answer: C**

## LOGICAL REASONING

A, B, C, D, E, F, G and H are eight students registered for the PGDBA program, with graduation in exactly one of the three discipline: Engineering, Science and Humanities. Of the eight students, not more than three are graduates from the same discipline. There are eight electives on offer, namely, Finance, Economics, Marketing, Programming, Operations, Algorithms, Communications and Statistics. Each student subscribes to exactly one elective and no elective remains unsubscribed.

Use the following additional information to answer the question below:

- i. D is a graduate in Science, and subscribes to neither Finance nor Economics.
- ii. A and F are the only graduates in Humanities.
- iii. A subscribes to Statistics and H does not subscribe to Economics.
- iv. E and H are not graduates from the same discipline as D.
- v. C subscribes to communications, and is not an Engineer.
- vi. G is not a graduate from the Science discipline, and subscribes to neither Economics nor Programming.
- vii. One of the students from the Science discipline subscribes to Finance.
- viii. One of the students from the Humanities discipline subscribes to Marketing.
- ix. No student from the Science discipline subscribes to either Programming or Operations.

**Q16. Which of the following students are graduates from the Science discipline ?**

- (A) E, F and H
- (B) E and H
- (C) B, D and G
- (D) B, C and D

**Correct Answer:- D**

**Q17. Which of the following students subscribe to Finance ?**

- A. D
- B. B
- C. F
- D. H

**Correct Answer:- B**

**Q18. Which of the following electives is subscribed by E ?**

- A. Programming**
- B. Operations**
- C. Economics**
- D. Algorithms**

**Correct Answer:- C**

**Q19. Which of the following electives is subscribed by G ?**

- A. Algorithms**
- B. Operations**
- C. Economics**
- D. Programming**

**Correct Answer:- B**

**Q20. Which of the following combination of (Student, Graduation Discipline, Subscribed Elective ) is correct ?**

- A. (E, Science, Economics)**
- B. (H, Engineering, Operations)**
- C. (F, Humanities, Operations)**
- D. (D, Science, Algorithms)**

**Correct Answer:- D**

## **DATA INTERPRETATION AND DATA VISUALIZATION**

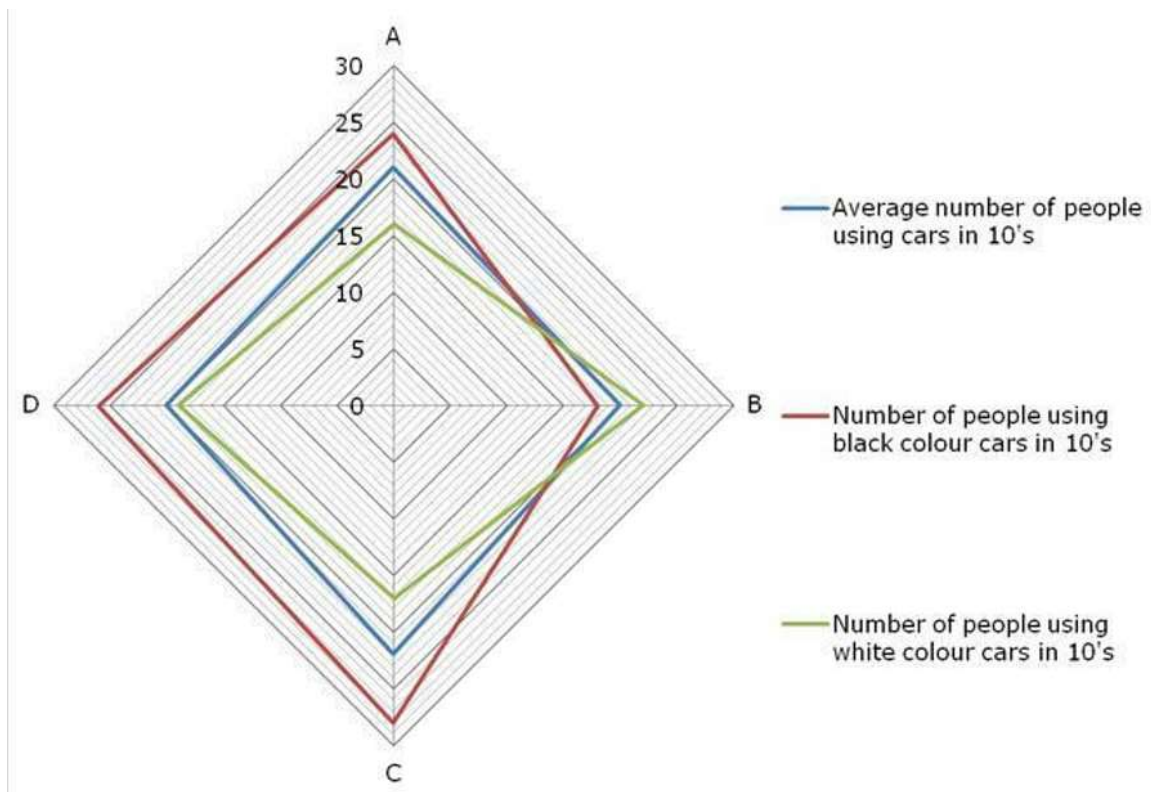
**Instruction : Below 5 question for Data interpretation and data visualization are the replacement of 5 wrong questions on PGDBA 2020 actual question paper.**

**Directions (21-25): Read the following information carefully and answer the questions given below.**

**The given radar graph shows the average number of people using cars in four different cities namely A, B, C, D and also given the number of people using black colour cars in these cities and also given the number of people using white colour cars in these cities.**

**Total number of people using cars = Number of people using black colour cars + Number of people**

**using white colour cars + Number of people using red colour cars**



**Note:- Each person uses only one colour car.**

**21. Find the ratio of the number of people using red colour cars in C to the number of people using black colour in A.**

**A. 13:11**

**B. 7:8**

**C. 5:4**

**D. 3:2**

**Correct Answer:- B**

22. Find the difference between the average number of people using black and white colour cars in C and the number of people using red colour cars in B.

- A. 30
- B. 18
- C. 12
- D. 25

**Correct Answer: D**

23. The number of people using the red colour car in D is what percentage of the number of people using the black colour car in A?

- A. 62.5%
- B. 37.5%
- C. 50%
- D. 60%

**Correct Answer: A**

24. If the number of people using black colour cars in C is 20% of the total population of C and the number of people using white colour cars in A is 10% of the total population of A, then find the difference between the population of A and C.

- A. 450
- B. 500
- C. 350
- D. 200

**Correct Answer: D**

25. If the number of people using bikes in D is 20% more than the number of people using red colour cars in D and the number of people using bikes in B is 30% more than the number of people using red colour cars in B, then find the total number of people using bikes in B and D.

- A. 440
- B. 360
- C. 480
- D. 300

**Correct Answer: A**

## QUANTATIVE APTITUDE

**Q26. The Value of  $\frac{\cos A - \cos 5A - \cos 9A + \cos 13A}{\sin A - \sin 5A + \sin 9A - \sin 13A}$**

- (A)  $\cot 2A$       (B)  $\tan 2A$       (C)  $\cot 4A$       (D)  $\tan 4A$

**Correct Answer :- D**

**Q27. The sum of all solutions of  $\tan 2\theta = \cot \theta$  in the interval  $\left[-\frac{\pi}{2}, \frac{\pi}{2}\right]$  is**

- (A) 0      (B)  $\pi/6$       (C)  $2\pi/3$       (D)  $\pi/2$

**Correct Answer :- A**

**Q28. The number of real roots of eq<sup>n</sup>  $2^x + 2^{-x} = 2 - (x - 2)^2$  is**

- (A) 2      (B) 1      (C) 0      (D)  $\infty$

**Correct Answer :- C**

**Q29. If  $\alpha, \beta$  are roots of equal of  $x^2 + 2x + 2 = 0$  the eq<sup>n</sup> whose roots are  $\alpha^4, \beta^4$ ,**

- A.  $x^2 + 8x + 16 = 0$   
 B.  $x^2 - 8x + 16 = 0$   
 C.  $x^2 + 8x - 16 = 0$   
 D.  $x^2 - 8x - 16 = 0$

**Correct Answer :- A**

**Q30. If  $f$  be a differential function with  $f(0) = 1, f'(0) = 2$  and  $f(a+b) = f(a)f(b)$  for all real numbers  $a$  &  $b$  which of following option is correct?**

- (A)  $3f(x) - f'(x) = 2$       (B)  $f(x) - f'(x) = 0$   
 (C)  $f'(x)f(x) = 1$       (D)  $2f(x) - f'(x) = 0$

**Correct Answer :- D**

**Q31. Let  $S = \{1, 2, \dots, 300\}$ . The number of elements of  $S$  which are divisible by at least one of 7 and 11 equals**

- (A) 67      (B) 68      (C) 66      (D) 69

**Correct Answer :- C**

**Q32. Function  $f(x) = \frac{1}{2}x^2 - x$**

- (A) decrease monotonically in  $(2, \infty)$
- (B) attains its maximum value at  $x = 1$
- (C) attains its minimum value at  $x = 1$
- (D) increase monotonically in  $(-\infty, 0)$

**Correct Answer :- C**

**Q33. Corners are cut off from equilateral triangle to produce regular hexagon. The ratio of area of hexagon & the triangle is**

- (A) 1:2
- (B) 2:3
- (C) 3:4
- (D) 1:3

**Correct Answer :- B**

**Q34. Smallest angle of triangle with sides 3,5,7 is**

- (A)  $\sin^{-1}(13/14)$
- (B)  $\cos^{-1}(11/14)$
- (C)  $\cos^{-1}(13/14)$
- (D)  $\sin^{-1}(6/7)$

**Correct Answer :- C**

**Q35. Let  $P, Q$  be  $n \times n$  matrix. Let  $O$  and  $I$  be the zero & Identity matrices of order  $n$  resp. Suppose**

$$P + Q = I \text{ and } PQ = O$$

**Then which of following options is always correct ?**

- (A)  $P^2 - Q^2 = O$
- (B)  $P^2 + Q^2 = O$
- (C)  $P^2 + Q^2 = I$
- (D)  $P^2 - Q^2 = I$

**Correct Answer :- C**

**Q36. For any real number  $y$  and let  $[y]$  denote the greatest integer less than or equal to  $y$ . The value of integral**

$$\int_1^2 [x^2] dx \text{ is}$$

- (A)  $5 - \sqrt{3} + 2$
- (B)  $5 + \sqrt{3} - 2$
- (C)  $5 + \sqrt{3} + 2$
- (D)  $5 - \sqrt{3} - 2$

**Correct Answer :- D**

**Q37. The following system of equation**

$$x + 4y + kz = 0$$

$$x + 3y + 2z = 0$$

$$3x + 8y + 5z = 0$$

(A)  $k \neq 2$

(B)  $k = 3$

(C)  $k = 2$

(D)  $k \neq 3$

**Correct Answer :- B**

**Q38. The value of  $\sin 20^\circ \sin 40^\circ \sin 80^\circ$  equal**

(A)  $1/8$

(B)  $\sqrt{3} / 2$

(C)  $\sqrt{3}/8$

(D)  $\sqrt{3}/4$

**Correct Answer :- B**

**Q39. If line  $y = x + c$  touches ellipse  $2x^2 + 3y^2 = 1$ , then possible values of  $c$  are**

(A)  $\pm \frac{\sqrt{4}}{5}$

(B)  $\pm \sqrt{5} / 6$

(C)  $\pm \sqrt{2}/3$

(D)  $\pm \sqrt{\frac{3}{4}}$

**Correct Answer :- B**

**Q40. The circle  $x^2 + y^2 + kx + 4y - 20 = 0$  and  $x^2 + y^2 + 6x + 8y + 10 = 0$  intersect orthogonally .**

**Then  $k$  equals**

(A) 2

(B)  $1/4$

(C)  $1/2$

(D) 4

**Correct Answer :- A**

**Q41. If  $I = \int_{\pi/6}^{\pi/3} \frac{1}{\sqrt{\cos x} + \sqrt{\sin x}} dx$ , then**

**$\int_{\pi/6}^{\pi/3} \frac{x}{\sqrt{\cos x} + \sqrt{\sin x}} dx$  is equal to**

(A)  $\pi I$

(B)  $\frac{\pi I}{6}$

(C)  $\frac{\pi I}{4}$

(D)  $\frac{\pi I}{3}$

**Correct Answer :- C**

**Q42. The product of six numbers in geometric progression is 512, if fourth number is 4, then third number**

(A) 8

(B) 2

(C) 1

(D)  $1/2$

**Correct Answer :- B**

**Q43. The coefficient of  $x^2$  in binomial expansion  $(1 - x - x^2)^{10}$  is**

- (A) 120                      (B) 35                      (C) 10  
(D) 45

**Correct Answer :- B**

**Q44. Let  $S_1 = \frac{1}{3} - \frac{1}{2} \times \frac{1}{3^2} + \frac{1}{3} \times \frac{1}{3^3} - \frac{1}{4} \times \frac{1}{3^4} + \dots$**

$$S_2 = \frac{1}{4} + \frac{1}{2} \times \frac{1}{4^2} + \frac{1}{3} \times \frac{1}{4^3} + \frac{1}{4} \times \frac{1}{4^4} + \dots$$

**Then ,**

- (A)  $S_1 = S_2$               (B)  $S_1 + S_2 = 0$               (c)  $3S_1 = 4S_2$               (D)  $4S_1 = 3S_2$

**Correct Answer :- A**

**Q45. The number of Distinct real roots of equation**

$$\left(x + \frac{1}{x}\right)^2 - \left(x + \frac{1}{x}\right) - 2 = 0$$

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

**Correct Answer :- D**

**Q.46 If the function**

$$f(x) = \begin{cases} x + 2, & \text{if } x < 2 \\ ax^2 - bx + 3, & \text{if } x \leq x \leq 3, \\ 2x - a + b, & \text{if } x \geq 3 \end{cases}$$

**is continuous the value of  $(a + b)$**

- (A) 1              (B) 2              (C) 0              (D) 3

**Correct Answer :- A**

**Q47. The perpendicular bisector of chord of hyperbola  $\frac{x^2}{16} - \frac{y^2}{25} = 1$  where Midpoint is (5,3) is given by**

- (A)  $125x - 48y = 481$   
(B)  $48x + 125y = 615$   
(C)  $-48x + 125y = 135$   
(D)  $125x + 48y = 769$

**Correct Answer :- A**

**Q48. Area enclosed by  $x^2 = 2y$  &  $y^2 = 16x$**

- (A)  $31/3$
- (B)  $32/3$
- (C)  $33/3$
- (D)  $34/3$

**Correct Answer :- B**

**Q.49. Let  $f(x) = 5|x| + x(x-2)$ . Let  $S$  be the set of all real numbers  $x$  such that  $f(x) \geq 0$ . Then  $S$  equals:**

- A.  $\{x: x \geq 2\}$
- B.  $\{x: x \leq 0\}$
- C. set of all real numbers
- D.  $\{x: x \geq 0\}$

**Correct Answer :- C**

**Let  $f(x) = \begin{cases} x+1)^3, & \text{if } x = 1 \\ 4 + (x-3)^2, & \text{if } x > 1 \end{cases}$**

**The local extrema of  $f$  exists at**

- (A)  $(1, 3)$
- (B)  $(-1, 1)$
- (C)  $(-1, 3)$
- (D)  $(1, -3)$

**Correct Answer :- A**

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