प्रश्नपुस्तिका क्रमांक Question Booklet No.

प्रश्नपुस्तिका सीरीज Question Booklet Series

B.Com. (Honors) (First Semester) Examination, February/March-2022 BCHO-102

Financial Mathematics

(for Regular, B.P. & Ex Studends)

Time: 1:30 Hours Maximum Marks-100

जब तक कहा न जाय, इस प्रश्नपुस्तिका को न खोलें

निर्देश : - 1.

- परीक्षार्थी अपने अनुक्रमांक, विषय एवं प्रश्नपुस्तिका की सीरीज का विवरण यथास्थान सही
 सही भरें,
 अन्यथा मूल्यांकन में किसी भी प्रकार की विसंगति की दशा में उसकी जिम्मेदारी स्वयं परीक्षार्थी की होगी।
- 2. इस प्रश्नपुस्तिका में 100 प्रश्न हैं, जिनमे से केवल 75 प्रश्नों के उत्तर परीक्षार्थियों द्वारा दिये जाने है। प्रत्येक प्रश्न के चार वैकल्पिक उत्तर प्रश्न के नीचे दिये गये हैं। इन चारों में से केवल एक ही उत्तर सही है। जिस उत्तर को आप सही या सबसे उचित समझते हैं, अपने उत्तर पत्रक (O.M.R. ANSWER SHEET)में उसके अक्षर वाले वृत्त को काले या नीले बाल प्वांइट पेन से पूरा भर दें। यदि किसी परीक्षार्थी द्वारा निर्धारित प्रश्नों से अधिक प्रश्नों के उत्तर दिये जाते हैं तो उसके द्वारा हल किये गये प्रथमतः यथा निर्दिष्ट प्रश्नोत्तरों का ही मूल्यांकन किया जायेगा।

3. प्रत्येक प्रश्न के अंक समान हैं। आप के जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।

- 4. सभी उत्तर केवल ओ०एम०आर० उत्तर पत्रक (O.M.R. ANSWER SHEET) पर ही दिये जाने हैं। उत्तर पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
- 5. ओ॰एम॰आर॰ उत्तर पत्रक (O.M.R. ANSWER SHEET) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाय।
- 6. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी प्रश्नपुस्तिका बुकलेट एवं ओ०एम०आर० शीट पृथक-पृथक उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें।
- 7. निगेटिव मार्किंग नहीं है।

महत्वपूर्ण : — प्रश्नपुस्तिका खोलने पर प्रथमतः जॉच कर देख लें कि प्रश्नपुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्ष निरीक्षक को दिखाकर उसी सीरीज की दूसरी प्रश्नपुस्तिका प्राप्त कर लें।

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Rough Work / रफ कार्य

1.	Relationship between S.I and C.I for one year is:
	(A) $S.I > C.I$
	(B) $S.I < C.I$
	(C) $S.I = C.I$
	(D) Insignificant value
2.	If the compounding is done quarterly, the value of rate will be:
	(A) Will be multiplied by 4
	(B) Added by 4
	(C) Subtracted by 4
_	(D) Divided by 4
3.	What is the value of $(1.08)^5$?
	(A) 1.469
	(B) 1.35
	(C) 2 (D) 1.1
4.	What is the value of log10?
	(A) 0
	(B) 1
	(C) Infinite
	(D) 10
5.	Current yield can be calculated by
	(A) (Interest rate/current market) ×100
	(B) (Current market/Interest rate) ×100
	(C) (Interest rate/issue price) ×100
	(D) (Inflation rate/current market) ×100
6.	In how many years will amount gets doubled at rate of 8% p.a, using rule 72
	(A) 10 years
	(B) 9 years
	(C) 8 years
	(D) 7 years

- 7. Time value of money is associated with:
 - (A) Risk
 - (B) Inflation
 - (C) Reinvestment opportunities
 - (D) All of the above
- 8. Which of the following equation is correct?
 - (A) $FV_n = PV(1+r)$
 - (B) $FV_n = PVx [1 \div (1+r)]$
 - (C) $FV_n = PV (1+r) n$
 - (D) None of these
- 9. YTC stands for.....
 - (A) Yield to call
 - (B) Yield to coupon
 - (C) Yield to compound
 - (D) None of these
- 10. Profit can be calculated on:
 - (A) Cost price
 - (B) Selling price
 - (C) Both (A) or (B)
 - (D) Neither (A) nor (B)
- 11. Cash discount is given to......
 - (A) Everyone
 - (B) To a limited customer
 - (C) Customer who pay the dues in a specified time
 - (D) None of the above
- 12. Calculate the value of money paid by the customer:

Trade discount = ₹20%

Cash discount = 15%

- (A) ₹ 32,500
- (B) ₹30,000
- (C) ₹ 40,000
- (D) ₹ 34,000

- 13. From the following particulars, calculate the profit/loss on the transactions:
 - Listed Price = ₹25000
 - Trade discount = 20%
 - Cost Price = ₹18,000
 - (A) Loss = 2,000
 - (B) Profit = ₹2,000
 - (C) Loss = \$6,000
 - (D) Profit = \$7,000
- 14. An asset worth ₹15,000depreciates at a rate of 10% p.a what will be its value after 3 years if diminishing rate is applied?
 - (A) ₹ 12,150
 - (B) ₹ 10,935
 - (C) ₹ 10,500
 - (D) ₹ 12,000
- 15. Discount percentage cab be calculated by:
 - (A) Discount $\% = \frac{discount}{Selling\ Price} \times 100$
 - (B) Discount $\% = \frac{discount}{100} \times Selling Price$
 - (C) Discount $\% = \frac{gain}{Selling Price} \times 100$
 - (D) Discount $\% = \frac{discount}{Merket\ Price} \times 100$
- 16. Choose the correct option.
 - (A) Banker's gain = Banker's discount True discount
 - (B) Banker's discount = Banker's gain True discount
 - (C) True discount = Banker's gain Banker's discount
 - (D) All of these

17.	At the rate 6% per annum simple interest after a months the amount due is ₹ 20,900.
	Find its present value.
	(A) ₹20,000
	(B) ₹ 18,000
	(C) ₹ 20,100
	(D) ₹19,500
18.	What sum of money will produce Rs.70 as simple interest in 4 years at 31/2
	percent?
	(A) ₹ 525
	(B) ₹ 500
	(C) ₹550
	(D) ₹ 555
19.	If Re. 1amounts to Rs. 9 over a period of 20 years. What is the rate of simple
	interest?
	(A) 262/3%
	(B) 30%
	(C) 271/2%
	(D) 40%
20.	Base rate comprises of?
	(A) Pure rate + default risk premium
	(B) Pure rate + risk premium
	(C) Pure rate + expected inflation rate (D) Expected inflation rate + risk premium
	(D) Expected inflation rate + risk premium

21. The date at which a borrower is to repay a loan or to redeem a bond is known as..... (A) Issue date (B) Maturity date (C) Either A or B (D) None of these A company has borrowed ₹1,000 to be paid in 12 monthly installments of ₹94.56. 22. Compute the annual Interest. (A) 24% (B) 18% (C) 12% (D) 2% 23. What is present value of a machinery worth ₹13,310 due after 3 years at 10% p. a compounded annually? (A) ₹ 12,100 (B) ₹11,000 (C) ₹ 10,000 (D) ₹ 9,000 Present value of perpetuity can be calculated by....... 24. (A) $P = \frac{a}{i}$

(C)
$$P = a (1 + i)^n$$

(B) $P = \frac{a(i-1)}{a}$

(D) None of these

- 25. How can we calculate the amount of certain annuity due?
 - (A) $A = \frac{a(1+i)^n}{i} \{1+i\}$
 - (B) $A = \frac{a(1+i)}{i} \{1+i\}^n 1$
 - (C) $A = \frac{a}{(1+i)^n}$
 - (D) None of these
- 26. The value of money results from?
 - (A) Its backing
 - (B) Rates set by the state bank
 - (C) Its purchasing power
 - (D) None of the above
- 27. A decrease in the supply for loanable funds, holding demand constant, will cause interest rates to?
 - (A) Increase
 - (B) Decrease
 - (C) Stays the same
 - (D) None of these
- 28. What will be the value of 'n' if the interest is compounded monthly?
 - (A) 2
 - (B) 4
 - (C) 10
 - (D) 12
- 29. Nominal Interest Rate is also known as?
 - (A) Annual percentage rate
 - (B) Effective interest rate
 - (C) Periodic interest rate
 - (D) Coupon rate

30.	nterest paid (earned) on only the original principal borrowed (lent) is often referred
	o as?
	(A) Compound interest
	B) Present value
	(C) Future value
	D) Simple interest
31.	What is the present value of ₹8,000 to be paid at the end of three years if interest
	rate is 11%?
	(A) ₹ 5,850
	(B) ₹ 4,872
	(C) ₹ 6,725
	D) None of these
32.	What does net present value give?
	(A) Future values of present cash flows
	(B) Present values of present cash flows
	(C) Present values of Future cash flows
	D) Future values of Future cash flows
33.	Present value of a single amount is simply termed as current value of?
	(A) Present payment
	(B) Future payment
	(C) Annuity payment
	D) Discount payment
34.	The higher the future value (FV) of the payment, the higher will be the?
	(A) Discount rate
	(B) Liquidity
	(C) Present value
	(D) Cost of borrowing

35.	Discount @ 10%+10% on an article sold for ₹100 is equivalent to:
	(A) ₹20
	(B) ₹ 10
	(C) ₹ 19
26	(D) ₹ 15
36.	By selling an item of ₹660 at ₹600. The rate of discount is:
	(A) 10%
	(B) 11%
	(C) 9.09%
	(D) 8.25%
37.	Discount is given on:
	(A) List price
	(B) Selling price
	(C) Cost price
	(D) None of these
38.	What will be the present value of annuity due of ₹4000 for 8 years @ 11% p. a rate
	of interest?
	(A) ₹ 25,848
	(B) ₹ 24,000
	(C) ₹ 22,848
	(D) ₹ 23,848
39.	How can the value of true discount be calculated in case of simple interest?
	(A) True discount = $AxRxT/(100+RT)$
	(B) True discount = RxT /amount
	(C) True discount = 100 + interest/principal
	(D) True discount = principle + interest

40.	An annuity which is payable after a lapse of a number of intervals of time, is known
	as
	(A) Annuity contingent
	(B) Deferred annuity
	(C) Annuity due
	(D) Annuity certain
41.	For what purpose sinking fund can be used
	(A) For replacement of assets
	(B) For repayment of liabilities
	(C) For redemption of bonds
	(D) All of these
42.	Anik ltd. has 16% debenture bond outstanding; the bond matures in 20 years period.
	The bond is callable in 10 years at 116. It currently sells for ₹125. Calculate current
	yield of bond.
	(A) 12.8%
	(B) 10%
	(C) 15.2%
	(D) 11.8%
43.	XYZ ltd. Is expected to grow at a rate of 13.6% per annum and dividend expected a
	year hence is ₹10. If the rate of return is 24%. What is the price of the share today?
	(A) ₹90
	(B) ₹ 100
	(C) ₹ 99 approx
	(D) ₹ 96 approx

44.	Book value of shares can be calculated by
	(A) Net Assets ÷ No. of existing equity shares
	(B) Paid-up equity capital plus reserves & surplus ÷ No. of existing equity shares
	(C) Both (A) & (B)
	(D) Neither (A) nor (B)
45.	YTM stands for
	(A) Year to months
	(B) Yield to maturity
	(C) Yield to money
	(D) None of these
46.	Interest rate is also known as:
	(A) Nominal rate
	(B) Present rate
	(C) Base rate
	(D) Coupon rate
47.	The difference between the S.I and the C.I ₹24,00 for 2 years at 5% p. a is:
	(A) ₹5
	(B) ₹ 10
	(C) ₹ 16
	(D) ₹6
48.	The C.I on ₹16000 for 1 ½ years at 10% p.a payable half-yearly is:
	(A) ₹ 2,222
	(B) ₹ 2,522
	(C) ₹ 2,500
	(D) ₹ 8,522

49.	A sum of money doubles itself in 10 years. The number of years it would triple
	itself is:
	(A) 25 years
	(B) 15 years
	(C) 20 years
	(D) None of these
50.	FVIF stands for:
	(A) Future Value Interest Factor
	(B) Facture Value Income Factor
	(C) Firm Value Interest Factor
	(D) None of these
51.	PVIFA stands for:
	(A) Present Value Interest Factor Annually
	(B) Past Value Interest Factor of Annuity
	(C) Present value of redemption annuity
	(D) None of these
52.	The value of bond and debenture is:
	(A) Present value of interest payments it gets
	(B) Present value of contractual payments it gets till maturity
	(C) Present value of redemption amount
	(D) None of these
53.	Required rate of return>Coupon rate, the bond will be valued at:
	(A) Premium
	(B) Par value
	(C) Discount
	(D) None on the above.

54. Time value of money supports the comparison of cash flows recorded at different time period by: (A) Discounting all cash flows to a common point of time (B) Compounding all cash flows to a common point of time (C) Using either A or B (D) None of these Time value of money indicates that: 55. (A) A unit of money obtained today is worth more than a unit of money obtained in future (B) A unit of money obtained today is worth less than a unit of money obtained in future (C) There is no difference in the value of money obtained today and tomorrow (D) None of the above 56. If compounding is done for more time outcome will be greater value, it is a choice of? (A) Borrower (B) Lender (C) Liabilities holder (D) None 57. If bank gives 12% rate of interest per year, then per month it will be? (A) 1% (B) 12%

(C) 5%

(D) 6%

58.	Which of the following expresses 6.5%?
	(A) 0.0065
	(B) 6.5
	(C) 0.650
	(D) 0.0650
59.	Which of the following is not the present value of the amount?
	(A) Intrinsic value
	(B) Market price
	(C) Fair price
	(D) Theoretical price
60.	If you want to deposit money into bank, what will be yours choice?
	(A) Compounding annually
	(B) Compounding semi-annually
	(C) Compounding monthly
	(D) Compounding daily
61.	What is the value of Rs. 100 perpetuity if interest is 7%?
	(A) ₹12,321
	(B) ₹ 1,429
	(C) ₹21,350
	(D) None
62.	Rental payment for apartment is an example of?
	(A) Annuity due
	(B) Perpetuity
	(C) Ordinary annuity
	(D) Consol

63.	A 5-year annuity due has periodic cash flows of Rs.100 each year. If the interest		
	rate is 8 percent, the future value of this annuity is closest to which of the following		
	equations?		
	(A) (₹100) (FVIFA at 8% for 5 periods)		
	(B) (₹100) (FVIFA at 8% for 4 periods) (1.08)		
	(C) (₹100) (FVIFA at 8% for 5 periods) +(1.08)		
	(D) (₹100) (FVIFA at 8% for 4 periods) + ₹100		
64.	is the series of constant cash flows (CCF) over limited period of time?		
	(A) Perpetuity		
	(B) Annuity		
	(C) Present value		
	(D) Future value		
65.	In ordinary annuity payments or receipts occur at?		
	(A) Beginning of each period		
	(B) End of each period		
	(C) Mid of each period		
	(D) Quarterly basis		
66.	You are getting payments of Rs. 8,000 at the beginning of every year and they are		
	for five years at 6% p.a, what is the value of this annuity?		
	(A) ₹ 34,720		
	(B) ₹39,320		
	(C) ₹ 35,720		
	(D) None		
67.	Pension fund and insurance obligation is an example of?		
	(A) Annuities		
	(B) Perpetuity		
	(C) Consol		
	(D) Securities		

68.	The	is used to calculate the present value of a bond?
	(A)	Nominal yield
	(B)	Current yield
	(C)	Yield to call
	` ′	Yield to maturity
69.	At is	ssue, coupon bonds typically sell?
	(A)	Above par value
	(B)	Below par value
	(C)	At or near par value
	(D)	At a value unrelated to par
70.	Whi	ch of the following is not true regarding an annuity due?
	(A)	It is a series of equal cash flows
	(B)	It is also known as deferred annuity
	(C)	Cash flows occurs for a specific time period
	(D)	Payment are made at the start of each period
71.	In 2	years you are receive ₹10,000. If the interest rate were to suddenly decrease
	the p	present value of that future amount to you would?
	(A)	The correct answer cannot be determined without more information.
	(B)	Rise
	(C)	Fall
	(D)	Remains unchanged
72.	The	interest rate used in the present value calculation is often referred to as?
	(A)	Discount rate
	(B)	Inflation rate
	(C)	Nominal rate
	(D)	None of the above

13.	What stream of cash flows continue indefinitely?
	(A) Perpetuity
	(B) Annuity
	(C) Futurity
	(D) None of the above
74.	More frequent compounding results in future values and present
	values than less frequent compounding at the same interest rate?
	(A) Higher, higher
	(B) Lower, higher
	(C) Higher, Lower
	(D) Lower, Lower
75.	If a saving plan offers a nominal rate of 8% compounding quarterly on a 1-year
	investment, what will be the "EIR"?
	(A) 8.24%
	(B) 6.53%
	(C) 8%
	(D) 9%
76.	In Rule 69, we divide 69 by "n" and add what amount?
	(A) 12
	(B) 0.35
	(C) 0.50
	(D) 0.12
77.	The effective rate of interest will always be the nominal rate?
	(A) Greater than
	(B) Equal to
	(C) Less than
	(D) All of before

78.	The equivalent single discount for two successive discounts of 15% and 10% is:
	(A) 20.5%
	(B) 23.5%
	(C) 25%
	(D) 20%
79.	The person who lends the money is called
	(A) Creditor
	(B) Debtor
	(C) Shareholder
	(D) Either (A) or (B)
80.	When no interest is paid during the life time of a bond, it is called
	(A) Zero coupon bonds
	(B) Debentures
	(C) Shares
	(D) Gilt-edged bond
81.	If the borrower would not pay the entire obligation consisting of principal and
	interest.
	(A) Liquidity Risk premium
	(B) Default Risk premium
	(C) Maturity Risk Premium
	(D) None of these.
82.	Which of the following is not a type of risk premium for the purpose of calculation
	of interest rate?
	(A) Default risk premium
	(B) Liquidity risk premium
	(C) Credit risk premium
	(D) Maturity risk premium

83.	Two major components of interest rate are:
	(A) Pure Interest Rate + Risk Premium
	(B) Pure Interest Rate + Inflation Rate
	(C) Risk Premium + Inflation Rate
	(D) Base Rate + Risk Premium
84.	is a process of going from today's value to the future value:
	(A) Discounting
	(B) Effective rate
	(C) Compounding
	(D) All of these
85.	Intrinsic value is also known as
	(A) Economic value
	(B) Present value
	(C) Future value
	(D) None of these
86.	are long-term debt instruments.
	(A) Equity
	(B) Bonds
	(C) Reserves
	(D) None of these
87.	Find out the capital required to earn a monthly interest of ₹600 at 6% simple
	interest.
	(A) ₹ 110000
	(B) ₹ 120000
	(C) ₹ 130000
	(D) ₹ 100000

88.	The difference in the interests received form two different banks on ₹1000 for 2
	years is ₹ 20. Thus, the difference in their rates is:
	(A) 0.5%
	(B) 1.5%
	(C) 1%
	(D) 2%
89.	The simple interest on a certain sum of money for 4 years at 4 percent per annum
	exceeds the compound interest on the same sum for 3 years at 5 percent per annum
	by ₹57. Find the sum.
	(A) ₹24000
	(B) ₹ 12500
	(C) ₹23050
	(D) ₹ 26700
90.	In what time will ₹1000 amount to ₹ 1331 at 10% per annum, compounded
	annually?
	(A) 3 years
	(B) 2/3 years
	(C) $1^{1/2}$ years
	(D) ½ years
91.	The difference in simple interest at 13% and 12% p.a. of a sum in one year is ₹ 110.
	Then the sum is.
	(A) ₹ 13000
	(B) ₹ 10000
	(C) ₹ 15000
	(D) ₹11000
<u>~ · · · · · · · · · · · · · · · · · · ·</u>	C DCHO 103/470

92.	Calculate the amount on ₹4480 at 8% per annum for 3 years simple interest.
	(A) ₹ 5842.90
	(B) ₹ 5600
	(C) ₹ 6000
	(D) ₹5555.20
93.	The value of mobile phone which was purchased 2 years ago depreciates at 12%
	p.a If its present value is ₹9680, for how much was it purchased?
	(A) ₹ 12000
	(B) ₹11500
	(C) ₹ 12500
	(D) ₹ 10000
94.	The simple interest on a sum of money is $1/19^{th}$ of the principled and the number of
	years is equal to the rate per cent rate per annum. Find the rate per cent?
	(A) 3 %
	(B) 5 %
	(C) 7 %
	(D) 9 %
95.	What is the Amount when Interest is Compounded Half-yearly?
	(A) $[Px\{(1+R)/2\times100\}^{2n}]$
	(B) $[Px\{1+(Rx100/2)\}^{2n}]$
	(C) $[Px\{1+(R/2\times100)\}^{2n}]$
	(D) $[P2x\{1+(R/2\times100)\}^{2n}]$
96.	What is the formula of Compound Interest?
	(A) C. $I = P \times R \times T/100$
	(B) C. $I = 100/P \times R \times T$
	(C) C. I = Original Amount – Final Amount
	(D) C I = Final Amount - Original Amount

97.	The basic difference between Simple Interest and Compound interest is that in
	Simple Interest the remains the same throughout the loan period while in
	Compound Interest it varies.
	(A) Amount
	(B) Principal
	(C) Rate
	(D) Interest
98.	Principal + Interest = ?
	(A) Amount
	(B) Simple Interest
	(C) Profit
	(D) Rate
99.	If S.I and C.I denote Simple Interest and Compound Interest respectively on the
	same sum at the same rate of interest for the same period. What is the relation
	between S.I and C.I?
	(A) C. $I > S.I$
	(B) C. $I \ge S.I$
	(C) C. $I = S$. I
	(D) C. $I \leq S$. I
100.	What will be the sum if Simple Interest is ₹ x at x% for x years?
	(A) $(100/X)$
	(B) (100X)
	(C) $(100/X^2)$
	(D) (X)

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